THE CULTIVATOR.

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THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

National Agricultural Society.

We are pleased to perceive from the public journals, particularly those devoted to agriculture, that the subject of a National Society for the promotion of Agriculture, as proposed by our public spirited friends Messrs. Robinson and Garnett, through the Cultivator, is beginning to be discussed in a manner which shows it has attracted much attention, and is looked upon with great favor. We do not the less rejoice at these indications of public feeling, because we were so unfortunate as to differ from these gentlemen, and some others of our excellent friends, not as to the utility of such an institution, but as to the expediency of attempting its formation at the present time, and as our columns have shown, shall not the less willingly render every aid in our power to the formation of such an institution, when the agricultural public shall signify their willingness to support it in a proper and efficient manner.

To succeed in the organization of a National Society, one which shall answer the end designed, and be an honor to the men who have projected it, and the country which supports it, union and concert of action is necessary; funds must be procured and secured; and nothing, so far as it can be prevented, left to uncertainty. Of the ability of the country, we have never doubted; of the zeal, public spirit, and intelligence of many, we have received the most ample assurance; and should the result of the effort prove that we have been mistaken as to its expediency at this time, none will more heartily rejoice than ourselves at this correction by the public voice. Means alone are wanting; provide these, and the most serious obstacle vanishes at once.

State Aid to Agriculture.

We are gratified to announce that the bill introduced for the aid and improvement of agriculture, into the Legislature of this State, has become a law, and that, if not all that some of our agricultural friends expected, still its influence must be powerful for good. It appropriates eight thousand dollars annually, of which $700 goes to the N. Y. State Ag. Society, and the remainder is divided among the several counties in proportion to their population, on conditions and restrictions which must ensure its faithful application to the use intended by the State when granting the aid. It will be seen that no county can receive its share of the money unless a County Society is organized, and a sum equal to that appropriated is raised by the association to be added to and expended with that for premiums. This is a very important provision, and one on which we think the great efficiency and utility of the aid afforded, will depend. Every county in the State, therefore, which has not already an efficient society organized, should make no delay in effecting this object. Men of spirit, talent, enterprise, thorough farmers, or who feel a deep interest in the advancement of agriculture, must take the lead in this business, and the many will soon be interested in the result, and cheerfully follow the movement that we think will eventuate in so much good. Let every thing like sectional or political feeling be religiously eschewed in the management of these societies. They are intended for the people, to benefit the many, and so the funds appropriated must be sacredly regarded.

We think it may reasonably be anticipated that the Reports which are to be made to the Secretary of State from the State Society, and the County Societies, will form an annual volume of the most instructive and useful kind, and which will form a record or history of Agriculture in this State, invaluable to the farmer. The Agricultural law of 1817, has done much for the fame of De Witt Clinton, and the good effects resulting from it, have not yet ceased to be felt. The farmers of the State have demanded, and the Legislature have again granted aid to the agriculture of the State. Let such a use be made of this money, and such a spirit awakened in the community, that the agricultural prosperity of the State shall be commensurate with its unequalled position, and its immense resources.

☞ We would call the attention of County Clerks to the duty devolving on them to give the requisite notices for meetings, in such counties as have not already organized Agricultural Societies. These notices should be issued immediately.

An Act for the Encouragement of Agriculture.

[Passed May 5, 1841.]

The People of the State of New-York, represented in Senate and Assembly, do enact as follows:

§ 1. The sum of eight thousand dollars per annum, shall be and hereby is appropriated for the term of five years, for the promotion of agriculture and household manufactures in this State, in the manner following, to wit: to the county of

Albany,	$265	Oneida,	$255
Allegany,	123	Onondaga,	204
Broome,	67	Ontario,	130
Cattaraugus,	86	Orange,	162
Cayuga,	151	Orleans,	75
Chautauque,	143	Oswego,	131
Chemung,	62	Otsego,	148
Chenango,	122	Putnam,	38
Clinton,	84	Queens,	91
Columbia,	133	Rensselaer,	180
Cortland,	75	Richmond,	34
Delaware,	106	Rockland,	36
Dutchess,	157	Saratoga,	121
Erie,	186	Schenectady,	61
Essex,	71	Schoharie,	97
Franklin,	50	Seneca,	74
Fulton and Hamilton,	60	Steuben,	138
Genesee,	179	St. Lawrence,	170
Greene,	91	Suffolk,	97
Herkimer,	112	Sullivan,	47
Jefferson,	183	Tioga,	61
Kings,	143	Tompkins,	114
Lewis,	83	Ulster,	137
Livingston,	117	Warren,	40
Madison,	120	Washington,	123
Monroe,	194	Wayne,	126
Montgomery,	107	Westchester,	146
N. Y. to Am. Institute,	950	Yates,	61
Niagara,	93	N. Y. S. Ag. Society,	700

§ 2. When the New-York State Agricultural Society, and any county agricultural society now formed, or which may hereafter be formed in this state, or the American Institute in the city of New-York, shall raise by voluntary subscription any sum of money, the president and treasurer shall make and subscribe an affidavit of the facts of the formation of such society, and of their having raised a certain sum, specifying the amount thereof, which affidavit shall be filed with the comptroller of this state, who shall draw his warrant on the treasurer for a sum equal to the amount of such voluntary subscription, not however exceeding the amount to which such county or state society would be entitled, according to the apportionment aforesaid.

§ 3. The New-York State Agricultural Society and the several county agricultural societies now formed or which shall be formed in this state, during the continuance of this act, shall annually elect such and so many officers as they shall deem proper; and it shall be the duty of such officers annually, to regulate and award premiums on such articles, productions and improvements, as they may deem best calculated to promote the agricultural and household manufacturing interests of this state, having especial reference to the nett profits which accrue, or are likely to accrue, from the mode of raising the crop or stock, or the fabrication of the article thus offered, with the intention that the reward shall be given for the most economical or profitable mode of competition: provided always that before any premium shall be delivered, the person claiming the same, or to whom the same may be awarded, shall deliver in writing to the president of the society as accurate a description of the process in preparing the soil, including the quantity and quality of manure applied, and in raising the crop, or feeding the animal, as may be; and also of the expence and product of the crop, or of increase in value of the animal, with the view of showing accurately the profit of cultivating the crop, or feeding or fattening the animal.

§ 4. The president of the State Agricultural Society, and the several presidents of the said county societies, who shall receive or expend any of the moneys hereby appropriated, shall annually, in the month of December, transmit to the comptroller a detailed account of the expenditure of all the moneys which shall come into their hands under this act, and stating to whom and for what purpose paid, with the vouchers thereof; and the said presidents of the several county agricultural societies shall annually transmit in the month of December, to the Executive Committee of the New-York State Agricultural Society, all such reports or returns as they are required to demand and receive from applicants for premiums, together with an abstract of their proceedings during the year.

§ 5. The Executive Committee of the New-York State Agricultural Society shall examine all reports and returns made by the presidents of the county agricultural societies, and condense, arrange and report the same, together with a statement of their own proceedings, to the secretary of state, in the month of January in each year.

§ 6. The presidents of the several county societies, or delegates to be chosen by them annually for the purpose, shall be ex-officio members of the New-York State Agricultural Society.

§ 7. It shall be the duty of the county clerks in the several counties of this state to cause notice to be given in one or more newspapers in each county, of the time and place of a meeting to be held in such county for the purpose of organizing such county agricultural society; and notice thereof shall be given at least four weeks previous to such meeting.

§ 8. This act shall take effect immediately.

State of New-York, } This act having been approved and signed by the Governor, on the 5th day of May,
Secretary's Office. } 1841, I do hereby certify that the same became a law on that day. JOHN C. SPENCER, *Secretary of State.*

New-York State Agricultural Society's Fair.

LIST OF PREMIUMS.

In another part of our paper for this month will be found a notice of the time and place of holding the autumnal Fair of the State Agricultural Society, and the list of premiums which will be awarded on that occasion. It is to be hoped the arrangement is such as will meet the approval of the friends of agriculture throughout the State, and that all will unite to aid by their advice, contributions, and presence, the progress and usefulness of the Society. New-York *can* have the most efficient State Society in the Union; it depends on the friends of agriculture now to say whether they will *will* it. We are unwilling to believe that the liberality of the State, to the State and the county Societies, will not give an impulse to agriculture which shall be most beneficially felt. There must be no jealousies, no rivalries, except in doing good. Let every journal in the State lay the bill for the promotion of agriculture, before its readers. Let every farmer read it, and at once resolve to become a member of the county or State Society, or both. Let those counties in which no Society has yet been organized, if there are such, see that it is done without delay; there is no time to lose if one is expected to go into efficient operation this year, and without such Society, the money granted by the State, must be lost to the County. Fairs, cattle shows, plowing matches, &c., are our holidays; and when the labors of the summer are over and the golden harvests of autumn gathered to the barns, we should not deem the two or three days required to attend them, or the annual dollar or two essential to their support, time and money thrown away. If we wish to see agriculture assume the interest and importance here, it does in Great Britain, we must awaken the same zeal and liberality towards fairs and shows that is felt there.

Cuyahoga Agricultural Society.

This active and flourishing Society held its annual meeting at Cleveland, and appointed the following officers: M. Lindly, President, A. Sherwin, 1st Vice President, A. M. Coe, 2d Vice President, J. Houghton, Treasurer, G. B. Merwin, Secretary

Committees were appointed on the following subjects: Agriculture, Farms, Silk, Manufactures, Cattle, Horses, Hogs, Sheep, Plowing Match, Grasses and Horticulture.

Premiums to the number of 91. on the several classes of articles above enumerated, are offered, exhibiting a commendable spirit and liberality in the Society. We are particularly gratified at noticing that a part of the premiums are in valuable agricultural works; and we would hope that all societies will keep this mode of disseminating agricultural information, steadily in view. Among the works offered as premiums in the several divisions, we find the Cultivator, Chaptal's Chemistry, Buel's Farmer's Instructor, Colman's Agricultural Survey of Massachusetts, Jackson's Geology, Book on Sugar Beet, Practical Farmer, Bridgman's Gardener, Kenrick's Orchardist, American Silk Journal, Grazier's Guide, Cobbett's Advice to Young Men, Treatise on Sheep, Ellsworth's Swine Breeder, and Western Farmer. There are few farmers who would not be better pleased, and would not receive more benefit, by the reception of such works as are named above, and others that might be added, than by the same, or a greater amount in money. Let Agricultural Societies remember this, in making out their premium lists.

Sales of Berkshires.

Mr. Lossing of this city, informs us, that he has recently sold his famous breeding sow *Maxima* to Mr. Curd of Kentucky, for the handsome sum of $300. The animal is well known to breeders of Berkshires, as one of the largest of her kind in this country. Mr. Lossing has also sold his imported boar *Newberry*, to the same gentleman, for $200. He was shipped a few days since, and weighed, including cage, 880 lbs

Inquiries, Correspondence, &c.

Peach Worm.

Messrs. Editors—Has there been any preventive discovered to the ravages of the peach worm or grub, which threatens to destroy this most delicious of fruits. I have some fine trees which I find have been attacked. I am loth to lose them, and any information you may be able to give, will be thankfully received by one, at least, of your many Subscribers.

If the trees are already infested by the grub, let them be carefully examined around the root, and every worm dissected out of the bark. Complete excision will alone save the tree; at least such is the opinion of some of the most successful peach growers. With this evil, prevention is better than cure, and fortunately since attention has been directed to this point, methods have been discovered which appear to be effectual in preventing the attacks of the parent moth or fly. Planting the red cedar with the peach tree in the same hole, and leaving the roots and stems in as near contact as possible, has been found by experience to preserve the peach, the odor of the cedar being offensive to the parent of the grub, and the slow growth of this shrub preventing any injury to the peach. In an excellent article on the peach worm, by Prof. Kirtland of Ohio, after a description of the parent insect, and its mode of injuring the tree, he says—"Tansy and wormwood contain large quantities of essential oil, which is peculiarly offensive to this insect; and it is found that if the body of the peach tree be surrounded by half a dozen sprouts of either of these vegetables, it will be perfectly secured against the approaches of this destructive enemy. They should be planted in the spring nearly in contact with the body of the tree, and so as to surround it. During the summer they should be cultivated, and kept free from grass. In this way they form a permanent and successful means of defence against the insect that has nearly exterminated the peach tree from many sections of our country."

The Curculio.

Messrs. Editors—Can you inform the friends of the Cultivator how the Curculio, the bug which destroys so many plums, cherries, &c., ascends the tree? Whether on wings or legs? If on legs like the female of the canker worm, I can manage them with a lead trough, but if on wings, I want help. J. P.
Meriden, Ct.

The Curculio about which Mr. P. inquires, rises from the ground a perfect insect, provided with wings, and although not so much inclined to use them as some insects, does use them in short flights, and generally, if not always, reaches the young fruit by their aid. The damage sustained from the Curculio, is usually accomplished in a few evenings, and a sudden violent jar or blow on the tree, will cause most of these insects to fall to the earth, where if they are received on sheets or canvass, they may be easily gathered and destroyed; and if this operation is daily or nightly repeated, they will soon disappear, and the fruit be saved. If convenient, a fruit orchard should have pigs run in it the early part of the season to gather the worm-eaten fruit as it falls. Multitudes of the Curculio worms that would otherwise escape into the earth, and be ready to attack the next year's fruit, are thus destroyed. Geese, by devouring the first fruit that falls, are of much service, and even a coop of chickens will render aid by destroying the bugs as they emerge, or securing the worm as it endeavors to hide in the earth.

Building Chimneys.

"J. R." of Sing Sing, says:

"I think you would confer a favor on the universal public by publishing directions for the construction of fire-places or chimneys on philosophical principles, that will be sure to draw well. We know that heated or rarified air, is lighter than cold air, and consequently ascends; that makes the draft; but to make that draft constant and certain, is what is wanted in building."

The subject here alluded to, is an important one; and if any of our friends who understand these "principles," will furnish us a paper on the subject, with such drawings as may be required to illustrate it, we will lay it before our readers with pleasure.

The Apple Tree Borer.

"J. H. R." of Wickford, R. I. in a communication, says:

"A gentleman who has a very beautiful and thrifty nursery of fruit trees, has suffered much for the past year or two from a very destructive little insect in the shape of a worm or grub, frequently denominated the '*Borer*,' about the size of, and white like the potato worm, which has attacked the trees near the root, or perhaps an inch or two above the surface of the soil, perforating the trunk, and leaving a hole about as large as that commonly made by a small nail gimlet, checking the growth of the young tree materially, and soon causing their decay. Any information throwing light on this matter through the columns of the Cultivator, will be thankfully received."

The grub or worm alluded to, is the larvæ of a small black beetle or bug which is furnished with an ovipositor, aided by which, the bark of the tree is pierced, usually, but not always, near the surface of the ground, and an egg deposited, which in time is hatched, and becomes the destructive grub or borer alluded to. There are many kinds of this insect, some infesting one species of tree and some another, as the apple, peach, oak, locust, &c., but all inflicting much injury. The eggs are in most cases deposited in July, and a careful examination of the trees will show a spot from which the juice oozes, and the young worm be detected. If the boring has commenced, a small pile of fine dust will mark the place of the insect. At this time, a sharp pointed knife will extirpate him at once. If the boring is deeper, a flexible barbed wire may be used to extract the grub. For prevention, the mixing such substances with the earth around the tree, as are disagreeable to such insects or destructive to them, appears the most successful, although nothing as yet has been discovered that can be fully relied on. Ashes, or lime, spread around the tree to the depth of an inch, and 8 or 10 inches in width, appears to have been the most effectual remedies yet tried; yet it is possible the cultivation of plants having a strong odor, and disagreeable to insects generally, such as wormwood, tansy, mint, &c., near or among the trees, as recommended by Prof. Kirtland of Ohio, in the case of the peach, might be still more successful. We think the experiment worthy a trial.

Green Fly or Aphis—Inquiry.

"Messrs. Editors—Will you inform your readers what will prevent or destroy the small green lice found on cabbage and turnep leaves while young, as some fine fields of ruta baga were destroyed the past season by them in this region?
Brandon, Vt. R. V. M."

We have found the Aphis, or green plant louse, alluded to in the above, very difficult to destroy, after being once permitted to establish themselves on the turnep or cabbage, as they multiply with astonishing rapidity, and in a manner as yet unknown in any other insect. The surest remedy is to make a frequent examination of your cabbages or turneps, and if a colony is discovered, to pick the leaf and crush the whole under the foot. In this way their multiplication may be in part at least checked. Mr. Bridgman in his excellent work on gardening, advises the gardener "to have a hogshead always on hand in dry weather containing infusions made of waste tobacco, lime, soot, cow dung, elder, burdock leaves, &c." A portion of these ingredients, or others, poisonous to insects, used moderately on plants, will produce a good effect. "As liquid, however, cannot be conveniently used on a large piece of land, it may be necessary, if insects are numerous to sow tobacco dust, mixed with road dust, soot, ashes, lime, or charcoal dust in the proportion of half a bushel per acre every morning, until the plants are secure from their attacks." Would not fumigating plants by turning a barrel over them and burning a sulphur match under them, be as fatal to the aphis, as it would to the bee?

Hint to Agents.

A friend who has taken much interest in procuring subscribers to the Cultivator, says:

"I have invariably given all the benefit of your terms to the individuals whose names I have forwarded, six copies for $5, or $6,83 per copy, and have by even that small difference, induced some to receive the work, that otherwise would have declined. I fully believe, that should your agents generally give this opportunity to subscribers, your list would be increased one-third, and the benefit to community incalculable. The small *tribe* I pay for my paper, I consider lays *me* under other obligations for the benefit received."

Silk Culture.

The readers of the Cultivator are aware that there was last year much disappointment among silk growers, arising from the loss of the worms by sickness. The following from J. M. Dupre, Esq., of New Orleans, relates to the subject. We have our doubts whether the cause assigned is the correct one; and think that the disease and the cure will be found the same here as in Europe, and which will be found described in another part of this number of the Cultivator:

"I have lately had some conversation with some gentlemen from the south of France, on diseases of the silk worm; one from Valence, and the other from Lyons, and they agreed perfectly in opinion as to the best method of preventing or providing against the disease of silk worms which occasions their destruction in the last period of their existence. These gentlemen pretend that the leaf of the multicaulis imbibes too much moisture, and produces a kind of malady which kills these worms at the fourth time of shedding their skins. They affirm with confidence, that the leaf of the Chinese White Mulberry, called *Elata*, is more nutritious, and far less susceptible of fermentation. The worms fed on this leaf are more strong and vigorous, and finish the winding of their silk; but supported by the Multicaulis, they often die before commencing their work, or in the cocoon before completing it. The Elata, or White Chinese Mulberry, thrives better in the open fields, whatever may be the climate, and suffers no injury from the cold; but the leaves should not be gathered the first year after they are transplanted, as there would be great risk of their failure."

Corn Suckers—Inquiry.

Messrs. Editors—I find that some of the best cultivators of our great crop, Indian corn, differ in opinion as to the propriety of pulling the sprouts or suckers from the growing crop; some contending that it adds to the crop to remove them, while others maintain they are useful. I should be pleased to learn your opinion. *Ohio, April*, 1841. L. H.

We never remove the suckers from Indian corn, as we think the practice not warranted either on the score of labor or productiveness. Some experiments, made a number of years since, convinced us that it was better to let them remain, and we have seen nothing since to induce a change of opinion.

In the first place, it is no inconsiderable labor to remove the suckers from twenty acres of corn, and when removed, they are usually lost to all economical purposes, when if suffered to remain, they form a large quantity of the very best of fodder.

In the second place, it seems that in many cases, the blossoms on the suckers are necessary to the perfection of the grain. The main stalks shoot up their stems, blossom, and shed their pollen or fructifying dust, all in the course of a few days, impregnating the principal ears through their silks, and then drying up. Now there is in every corn field many later ears set, which require the application of pollen, or no grains will be produced; and the blossoms from the suckers appear exactly adapted to this emergency.

It is possible a vigorous sucker may detract something from the size of the main stem, and perhaps diminish in some slight degree the ears growing upon it, but the additional ears gained always more than compensates these partial deficiencies, and leaves the additional fodder as a clear gain.

Since writing the foregoing, we have noticed the results of an experiment on this subject, communicated for the Southern Planter, which corroborates the opinion we have advanced above. The experiment was made in a field of thirty-five acres, and eight rows in a place were operated upon. The extract is from the journal of farm labor, &c., a book that should be kept on every farm:

"August 15.—I counted nineteen ears of corn upon eight hills of corn in one place, upon which the suckers had been left. On the same row adjoining, I counted sixteen ears upon eight hills, upon which the suckers had been taken away.

"In another place, I counted upon eight hills, nineteen ears upon the corn and suckers, and thirteen ears on the same row on eight hills upon the stalks without.

"In another place, fifteen ears upon the stalks with suckers, and twelve on those without.

"The fodder on the eight rows throughout the field, must have been treble as much as upon any other eight rows in the same field.

"November 17—Measured the corn taken from thirty-two hills, (four rows of eight hills each) upon which the suckers had been left, and thirty-two hills adjoining, (four rows of eight hills) from which the suckers had been taken away and the result was as follows:—The stalks with suckers made sixteen quarts and a half pint (of shelled corn) and the stalks without suckers made even sixteen quarts."

From a variety of similar experiments on record, it appears that in pulling the suckers from corn, the labor is worse than thrown away, and in respect to quantity of grain, fodder, and saving of labor, it is best to let them remain.

Disease of Cattle.

The following is from a gentleman of Virginia, and its object is to draw from some of our subscribers "the name and cure of the disease" described. We think it a case of the swelled head or jaw, which sometimes occurs in the south and west, and which, judging from the representations given of it, is usually incurable:

Messrs. Editors—A short time since, I had an ox taken with a swelling under his jaws and throat, together with a considerable swelling under his tongue; the tongue itself did not seem to be affected. The swelling remained perfectly hard to the last; I stuck my knife into it, but nothing but blood came from it. He neither eat nor drank from the time he was taken, seemed to suffer much, had a high fever, judging from his appearance, (not knowing where to feel for the pulse,)—[the best way to ascertain the pulsation of the ox, is by the beating of the heart itself, known by placing the hand on the left side, a little within and behind the elbow. The average pulse of a full grown healthy ox, is about 40.—Eds. Cult.] and died on the fifth day. It has been suggested to me, that the disease was the murrain, and that to cure it, nothing more was necessary than to cut a hole in the dewlap, and secure a piece of tobacco in it.
S. B. J.

Cedar Hedges.

Hugh Gaston, who makes some inquiries on this subject, is informed that the berries of the Cedar are to be gathered in December, thoroughly cleansed by rubbing off the resinous matter, put into unslaked ashes, and after two weeks, plant them in rows like peas. They may be transplanted in about two years, into a rich light soil formed for the purpose, and in seven or eight years with proper trimming, make a beautiful hedge. If at the expiration of the two weeks' preparation in ashes, the ground should be frozen, they must be mixed up with earth in a box, and placed in an exposed situation, until the first thaw, or till the earth can be fitted for their reception. In trimming the cedar or pruning, care must be taken not to disturb the center or leading shoot, as in that case the tree frequently perishes.

Making Mush by Steam.

Geo. Esterly, Esq., of Wisconsin, inquires "whether mush can or cannot be cooked by steam; and if so, what kind of mush boiler and fixtures, would be best adapted to a ninety gallon boiler. He wishes an apparatus sufficient to fatten 150 hogs, and feed them on mush and roots."

We have never known a *steamer* for mush, but presume one might be constructed, for either boiling or steaming on a large scale. In making mush in the common way, it is continually burning on the kettle. This might be obviated by having a double kettle or boiler made so that a stratum of boiling water would intervene between the two. Sheet iron double vats might be made in this way of any desired capacity, and the mush boiled readily without the possibility of burning. If any of our subscribers are acquainted with a mush *steamer*, they would confer a favor by sending us a description for the Cultivator.

Rotation of Crops.

"P. E. P." of Charlotte, Vt. inquires respecting the proper course of rotation, and the treatment of a particular field last year in rye, now in clover.

Give your manure to your roots and corn; follow these with your spring grains and clover; and let wheat follow the last. The time or rotation must depend on circumstances, the crops you wish to cultivate, &c. Clover should not be plowed up until the third year. It may thus be pastured the fall of the first, and the whole of the second year, and mowed the third, before being plowed for wheat; or pastured the whole time, which is done by many of our wheat growers. The man who manages his farm upon system, who has every field in a state to grow any crop he wishes to put upon it, and

who adopts a well digested rotary course, can hardly fail of success.

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Inquiries.

Our esteemed friend D. G. M. of Springport, has forwarded a few inquiries respecting the opinion, that land may be made too fine for profitable cultivation; the value of Pitt's "Thrasher and Separator," and the cost of the Hot Air Furnace described by J. J. T. at page 39 of the current volume of the Cultivator.

We think the opinion entertained to some extent, that land may be by repeated plowings made "too fine or mellow to produce a good crop," a serious error, which has scarce the merit of plausibility in its favor. All theory would certainly be against it, as from the known manner in which plants derive most of their fertility, it is clear that the more completely every particle of the soil is exposed to atmospheric agency, the more its productive power will be increased; and the experience of every well cultivated district or farm in Europe or the United States, would be equally opposed. The great object of tillage is to make the soil fine and mellow, and thus increase the chances of a good crop. Soils vary much in the labor required to make them mellow, and some light soils after being made fine, and sufficiently aerated, may require consolidation by rolling or otherwise, but the best wheat lands are not of this class. They generally contain considerable clay, and on such, the tillage can scarcely be too thorough. To be satisfied of this, one has only to become acquainted with the mode of summer fallowing, practiced in the best wheat districts of England or Belgium, as described in foreign works on agriculture. Look at our best gardens too, those in which the productions are the greatest, and do we ever hear any complaints that the soil is too mellow? On the contrary, the great object, and one on which success is depending, is to make the soil rich, deep and mellow; and it should always be remembered that a garden is a farm in miniature.

We refer our correspondent to the article by Mr. Bement in the last Cultivator, on "Pitt's Thrasher and Separator," in which its merits, &c. are clearly set forth. The great loss which takes place in the usual manner of thrashing with machines, seems to render some method which shall obviate it very desirable, and the machine of Mr. Pitts appears to supply this desideratum. Were it not for the difficulty with which wheat is thrashed and the necessity of marketing it in the fall, there are many farmers who would not employ them at all; but as they are indispensable in wheat districts, we are glad that attention has been turned to their defects, and the best method of removing them.

If any of our friends at Palmyra or Macedon will furnish us with the cost of the Hot Air apparatus, described by Mr. Thomas, and furnished at Palmyra, they will probably confer a favor on many of our subscribers as well as ourselves. Many who are building, or intending to build, have expressed their intention of adopting that, or some similar method of warming their houses, a method we think far superior in every respect to the common modes.

—

Broom Corn Seed.

"W. W. H." who inquires as to the value of broom corn seed for feeding animals, is informed that it is used extensively for this purpose, and considered by those who raise the corn, a valuable article. We have known it ground and fed with other grain to horses with the best effect. It was deemed best with other grain, as alone it was said to make horses scour. Fed to other animals, we have known no such effect produced; and there are many growers of broom corn who scarcely use any other grain for their cattle, pigs, or poultry. When the brush and the seed are taken into consideration, there are few crops pay better than broom corn, as many of the farmers on the rich intervales of the Connecticut river can testify.

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Curl in Potatoes.

An intelligent correspondent at Ascot, L. C. in a communication on this disease, after controverting the opinion that it arises from the age of the variety, goes on to say, that the celebrated Horticulturist, Mr. Dickson, attributed the disease to the tubers being exhausted by over ripening. "In 1808, and 1809, Mr. D. observed that cuts taken from the least ripened end of a long flat potato, produced healthy plants, while those from the dry end did not vegetate, or produced diseased or curled plants." Subsequent experiments proved the correctness of Mr. D.'s observations that setting over ripe seed was one cause of the curl; and another, employing seed stock that had been any considerable time *exposed to the light and air*, instead of being *closely covered up with earth, sand or straw*. To remedy and prevent curl, it is recommended, 1st, to use for seed, potatoes that are immature, or not fully ripened. 2d, to plant late what is intended for seed the following year, and prevent them flowering by picking off the flower buds as they appear. 3, carefully pitting or covering up the seed stock from the time they are lifted, until they are to be used in the spring. It was ascertained by a variety of experiments, that when seed potatoes are put into barns or out-houses, and exposed to the air in spring, the crop seldom fails of being curled, or should they escape the first year, if the produce of these is again planted, it is probable more than the half will be diseased the following year. Mr. Rhoades may perhaps trace the curl in his "long keeps" to over ripening of the stock, or exposure of the seed in spring to the air sometime before planting; it would be useful to himself and others to test the accuracy of the above experiments by repeating them on his "long keeps" if he has not already discovered them, and perhaps the result may be, that they will be 'long keeps' still."

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Disease of Lambs.

"In this section of Canada there has been a very great loss of lambs this season. I have lost eighteen out of twenty-three —almost all others in a greater or less proportion. The lambs, when dropped, are as fine in appearance as usual, but have swellings (hard lumps) in their throats, some larger, some smaller, which disables them from swallowing, and they die of suffocation. Will you have the goodness to ask through the Cultivator, 1st, the cause; 2d, the cure, if any; by which means you will confer a great favor on our farmers. I should observe that the effect is the same on both high and low lands."

We give place to the foregoing, willingly, and hope it will elicit replies from some who are acquainted with the cause and cure of the disease, should there be such among our readers. We have never seen among our lambs a case of the swelled neck; but from the notices that have appeared in the Genesee Farmer, particularly vol. 6, page 217, and vol. 8th, page 13, it would seem to have been quite a common, as well as formidable disease in some parts of our country. Some, it appears, attribute the complaint to feeding the ewes on oats, and most seem to consider it as consequent on a high condition of the ewes. Some of the most skilful sheep growers in this State, have suffered much from this disease in their lambs.

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Hoof Ail.

A correspondent from Apulia, Onondaga Co., after controverting the position that this disease is usually caused by ergot, and correcting some errors into which he thinks former correspondents of the Monthly Genesee Farmer and the Cultivator have fallen, in mistaking other diseases for the hoof ail, thus details his own experience with the disease, and his mode of treatment.

"A few years since I had a boy to do my foddering while absent on a journey. While I was gone, a thaw came on and broke up the brook where my cattle were watered, so that my cows got into it. The weather came on suddenly severely cold and freezing, and when I returned home, I discovered one of my cows to kick her hind feet, and appear in great distress. I at first supposed she had slipped in the yard, but after a while found I was mistaken, as on examining her foot, I found matter had formed under the upper edge of the hoofs, and that these were in a fair way to come off. I immediately applied spirits of turpentine to her feet, but they were so bad I had hard work to save her hoofs. I continued to use the turpentine liberally, and her lameness abated, till in the month of April her lameness returned suddenly, and her legs swelled much. I took a solution of saltpetre and beef brine, washed her legs twice and then used the spirits of turpentine until a cure was effected. The foot must be clean and dry or the turpentine will not penetrate. It should be put on the foot as soon as lameness is discovered, and as a preventive against the effects of frost, I frequently put it on the feet of my well cattle. As this cow had been fed on good timothy, that contained no ergot, I suppose her feet had been frozen."

In a variety of other instances among his own cattle and calves, our correspondent imagines he was able to trace the disease to freezing, and in every instance, by a free use of turpentine, succeeded in saving them. He says—

"I think the reason why the hoof comes off, is, it is frozen at the toe, and maturates, as no vent can be found short of the heel. When the hoof grows and turns up, it has been frozen, but not sufficient to maturate."

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Worm in the head of Sheep.

John Cain, Esq., of Rutland, Vermont, wishes some information "respecting the disease in sheep called the 'Grub in the head;' whether there is any preventive; and whether there is any remedy after the attack."

The disease is doubtless caused by the sheep fly called the *Œstrus ovis* depositing its egg within the nostril of the sheep. These soon hatch and the larvæ find their way at once to the interior of the nose into the frontal sinews where they remain till the following spring. If in considerable numbers, they cause great distress and irritation, and not unfrequently death. The best preventive we have ever known, was to smear the sheep's nose with tar, and if during the summer the appearance or conduct of the animal indicated that the fly was present, (which may be known by their restless agitated manner,) let the operation be several times repeated. Perhaps a better way is, have troughs for the sheep, the bottom smeared with tar, and this frequently sprinkled with salt, as in this way the sheep will secure the benefit derived from the tar and its odor, without trouble. As to a "remedy," we give the following from Blacklock's celebrated Treatise on Sheep, but we have never had occasion to try the prescription, and cannot speak from experience of its value:

"For the grub or worm, tobacco smoke is the only available remedy, and a very good one, being easily brought in contact with the worms, and when properly administered, certain in its effects. One person secures the sheep, holding the head in a convenient position, while another having half filled a pipe with tobacco, and kindled it in the usual manner, places one or two folds of a handkerchief over the opening of the bowl, then passes the tube a good way up the nostril, applies his mouth to the covered bowl, and blows vigorously through the covering. When this has been continued a few seconds, the pipe is withdrawn, and the operation repeated on the other nostril."

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Wm. Kingham is referred to the preceding article for a reply to his query respecting the Sheep Worm.

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Labor Saving Machines.

Our friend "H. C." in the western part of this State, has furnished us a description of a machine invented by him for loading manure, hay, or grain, and unloading the same, which so far as we understand it, is certainly ingenious. It appears to us, however, to lack the great recommendation of any implement intended for general use among farmers, simplicity, as the more complicated any machinery is, the more liable it must be, in inexperienced hands to get out of repair. It does not seem that "H. C." has ever put his invention into actual operation, which after all, must be the test in such matters. Any machine which can be made to do what he proposes to have his perform, would be most acceptable to the farmer.

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The Wool Market.

We have room only for the conclusion of "A Wool Grower's" article on the price of wool the ensuing season. After giving several reasons why farmers should not submit to last year's prices, he says:

"Aside from all I have advanced, another very important fact must be mentioned, that our markets were never more bare of wool than at the present time; and again, the diminished quantity of *fine* wool which will be shorn this year, owing to the immense slaughter of grade Saxon sheep, within the last eight months. I am aware of an individual having butchered, in an adjoining county, over 3,000, the profits of which was principally derived from the sale of the pelts. In forming an estimate, therefore, from what I have said, which has been based on what I deem correct data and some reflection, I would say, that *fine wools* will command from 5 to 10 cents beyond last year's prices; and that medium wool, from its greater abundance, not so much, say 4 to 8 cents advance.

"Now, let us all be cautious and firm. Manufacturers and wool speculators will overflow as usual, with "cock and bull" stories. We shall have a deranged currency and "all that sort of thing, and every thing else in the world," told us over and over again, to gull and humbug: but pray let us beware and not be caught with *tainted* bait. Now having exhausted the argument, let us one and all stand by our——wool."

Tompkins Co., N. Y.

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Poudrette—Inquiry.

"B. C. L." who inquires respecting the manufacture of Poudrette, is informed that the process is the subject of a patent, and therefore kept secret; still enough is known to enable any farmer to prepare an article from his night soil that will prove a most valuable manure. Lime, ashes, plaster, charcoal, and other similar substances, if mixed with the night soil, absorb the escaping gases, and render it a dry inodorous substance. Spreading and drying is however requisite.

To his inquiry respecting a bone mill of little cost or power, we would say we have noticed no such in this country; but as they are in common use in England, and consist only of fluted or grooved iron rollers, (usually two pair, one for the first crushing, and the other for pulverizing them,) they might be easily constructed by any one who wished a machine of the kind. The cost could not be great. Some have attempted the grinding of bones in a common mill, but the effluvia produced in the process is intolerable. By English farmers, what are called half inch bones, or bones crushed to that degree of fineness, are preferred to bone dust, as their effect, if not quite so quick, is greater and more permanent.

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Hart's Plow.

Our correspondent at St. Stephens, Ala., who inquires the price of Hart's plow, noticed in the first number of the current volume, is informed that the implement alluded to, is an English one, and that the price or cost of procuring one, is unknown to us. In its construction and ease of draft, it nearly resembles Howard's wheel plow made at Boston, and we presume the latter implement will work equally well. The prices of Howard's plow vary from 10 to 15 dollars, with, or without wheels, cutters, &c.

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Weight of a Yearling Bull.

A letter from J. & H. L. R. Sanford, of Volney, Oswego County, says:—"We have a Short Horn Durham bull, which was one year old on the 29th of April last, and on that day weighed ten hundred and fifty pounds. He is of a dark red color, except some spots of white on the head and belly, and was bred and owned by John Stevens, Esq., of Lysander, until the 20th of March last.

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Millet—Inquiry.

A "Subscriber" at Killingly, Ct. inquires whether millet may not be raised with profit; at what time it should be sown; what kind of soil is most suitable what quantity of seed per acre; and whether for enriching land by plowing in as a green crop it would not be as valuable as oats, buckwheat, or clover?

The best soil for millet, is a kind, rich soil, and one in which vegetable mold is abundant, is to be preferred; but it will produce a good crop on any land of fair quality. From three pecks to a bushel of seed per acre is used. If intended to be mown for hay, more seed is to be sown; if for the seed, a smaller quantity is better. It may be sown any time between May and July, as it will come to maturity in from 70 to 90 days. On good ground, it will yield three or four tons on an acre. To cure it for hay, it should be cut and exposed to the sun one day, then made into cocks, which are to be opened and turned as usual; it cures easily, and is eaten with avidity by all animals. If the grain is wanted, let it stand till the head turns yellow; dry it and thrash out the seed, and then mow or stack it away for hay. It will not be quite as good as when cut earlier; but still it is a valuable and nutritious feed. As a green crop we

have never known it used; but as its growth is rapid, there can be little doubt that it would be very useful in the manner indicated.

Constant supply of Eggs.

J. G. BERGEN, Esq., of Brooklyn, says—"We never miss obtaining eggs throughout every day of the year, and simply because we always feed our fowls as much Indian corn as they will eat."

American Forest Trees.

WE learn with great pleasure, that a new edition of the NORTH AMERICAN SYLVA, will soon be issued from the press of J. DOBSON, No. 106, Chestnut-st., Philadelphia. It will contain a description of the *Forest Trees of the United States, Canada, and Nova Scotia*; with a description of the most useful of the European forest trees. Illustrated by 156 finely colored engravings. Translated from the French of T. A. MICHAUX. To this will be added an additional volume, containing the Forest Trees discovered in the ROCKY MOUNTAINS and OREGON TERRITORY, down to the shores of the Pacific, as well as in various parts of the United States, by THOMAS NUTTALL, F. L. S. The figures will comprise about 40 plates, executed and colored in the best manner under the eye of the editor. Additional remarks will be added, so as to render the work as complete as possible in every respect.

Michaux's magnificent work on our Forest Trees needs no commendation of ours; and the well established reputation of Mr. Nuttall, the editor of the additional part of the work, is a sufficient guarantee for its accuracy and style of execution. The plates, about Two HUNDRED in number, will be finely and faithfully colored, and the whole will form one of the most splendid works ever published in this country.

The work will make four volumes, in Imperial octavo; the first volume to be ready in May or June, and the succeeding ones at short intervals, so as to be completed within the year. The price of the whole work will be thirty dollars. The 1st, 2d and 3d volumes, eight dollars each, and the 4th, six dollars. Those persons who possess the former edition of Michaux's work can complete their copies by the addition of the 4th. Seven dollars, colored—uncolored, five dollars.

We will forward with pleasure, the names of any of our friends who may wish to receive the whole, or the last part of this truly national work.

Security against Lightning.

THE damage which the country, and particularly the farming classes, sustain from lightning, is very apt to be under-rated by those who have not paid attention to the subject, or ascertained the number of such disasters reported annually in the public journals. There is scarce a thunder shower during the season, in which more or less buildings or lives of men or animals are not destroyed, and the aggregate is a serious one. During a single shower in Western New-York last season, in three counties, some fifteen or twenty buildings were burned, and though few showers are as destructive, all are more or less liable to produce disastrous results. The importance, therefore, of protecting buildings can hardly be too frequently, or too earnestly urged upon the owners; and what is done in this way, should be done so as not to invite, but to divert the attack of the destructive agent.

The common faults of lightning rods are, first, being made of too small iron rods, a fault that prevents sufficient surface for the free transmission of the fluid. This fact is shown by the frequent breaking and fusion of small rods, an occurrence which never happens to large ones. Rods less than five-eighths should never be used, and three-fourths or even an inch, are still better.

A second fault is in not having the rods properly joined; and their termination in the earth of the right kind. The rods should be united by a screw joint, in such a way as to enlarge the rod at that place as little as possible, and the lower part should enter the earth to such a depth as to ensure a certainty of its being always in contact with moisture; if the lower part is forked, the fluid will pass off still more readily.

A third fault is in the construction of the elevated points. This part sometimes ends in a single point, sometimes in two or three; but these are usually blunt, covered by rust, and consequently forming very imperfect conductors. It should be remembered the more numerous the points the better; that the points should be fine and sharp, and should be made of some metal not liable to oxydate or rust. Silver or platina are the best metals for this use. A dollar will furnish material for a dozen points.

Another fault is founded in the manner of putting up such rods. They should be secured to their places on or about the buildings to be protected, by such substances as are poor, or perfect nonconductors, such as wood or glass, and all things considered, the first is doubtless the best article that can be used. If attached to a house, it should be so as to command the most exposed or elevated part, such as the chimney, and when there is more than one of those of equal height, then the one in which the fire is usually kept, as it is found that a column of heated air constitutes a powerful conductor. If applied to out buildings, those most exposed should be selected, and particularly those in which the greatest value is generally found. The barns in which large quantities of new grain and hay are stored, are found more frequently struck by lightning than others, a fact that may be attributed to the heated air rising from the partially fermenting masses within, conducting the electric fluid to such buildings. Some may prefer insurance, to the trouble of erecting rods, and with such we shall not contend; all that is desired, is, that the owner of property, and especially the farmer, will adopt some certain method of securing himself against such loss.

Weeding Wheat.

Mr. FULLER, in the 'Farmer's Monthly Visitor,' thus describes his method of performing the process of clearing his wheat from weeds, &c.:

"I always weed my wheat twice. The first time when it is three or four inches high; then again just before it begins to head out. I use an instrument called a grub. It is like a cabinet maker's gouge, about one and one fourth of an inch in diameter, with a socket into which I put a handle, say four or five feet long. With this instrument, one man may go over a large piece of ground in a day. The method is to take the grub and cut off a thistle, dock, or any thing that is injurious to the wheat at the surface of the ground, and leave it on the spot where it was cut off. A field that has this dressing will look much better; weeds always take the start of the wheat, and retard the growth. This practice always pays the farmer a great price for his labor."

Mr. Fuller's remarks relate to spring wheat, but they are applicable to winter wheat, and the farmer always finds his account in selling or sowing clean grain. A friend of ours last season had two fine fields of wheat, one of winter, and the other of spring, and he wed them both carefully, so as to leave nothing but pure wheat. Both kinds were principally sold for seed at such an advance in price as to amply compensate for the extra labor expended, and the increase in the quantity of the grain from its being freed from weeds, was far from inconsiderable. Weeding wheat is common in Europe, and there can be little doubt the practice may be advantageously adopted here.

Agricultural College.

MASSACHUSETTS was the first to institute a Geological Survey; to provide for an accurate examination of her agricultural resources; and she seems destined also to be the first in establishing a school where agriculture shall be taught and practiced scientifically and practically. We honor the old Bay State, not only because of her historical associations, because she possesses a Faneiul Hall, Lexington, and Bunker Hill, but because her public spirited sons appear to understand and appreciate the great truth, that knowledge is the mighty power which alike governs the world of matter and of mind.

We learn from some papers which have appeared in the Boston Recorder, that measures are being taken to convert that branch of Phillips' Academy at Andover, called the Teacher's Seminary, into what may be called an English College, in which young men may be prepared for every department of business, except what are termed the learned professions. This school was the first *Normal school*, or school for the preparation of teachers, established in the United States; and its effects have been most happy; and in its proposed enlarged sphere of operation, it will open a new era in the agriculture of the country. The paper to which we have alluded, says:—

"This school embraces a three years' course of study in the department of English literature, mental, moral, and Natural Philosophy, Mathematics and the Natural Sciences; a course substantially the same as that of our colleges, with the exception of the ancient languages. It now has four teachers, three of them permanent, and the number of students by the last catalogue, was 136. Arrangements have been made to introduce agriculture as a branch of study during the spring term, which is soon to commence, in connection with the lectures and experiments in chemistry. Should this effort be sustained by the community, as we have good reason to hope it will, the institution in all its prominent features, will be an English college, such as the wants of the country demand. * * * The buildings are sufficient to accommodate 150 students. In addition to a good farm, there are two farms belonging to the trustees, which might be devoted to the purpose of the institution if they were needed. All that is now necessary to give permanency and success to the plan, is the endowment of one or two professorships, requiring less than one-half the sum which would be necessary to establish a similar institution, where no such foundation existed."

Of the eligibility of the location there can be no doubt; and when we remember the princely liberality already extended to the justly famed institution of Andover, there can be little doubt that the necessary sums for the endowment of the agricultural department, will be speedily forthcoming. Should it go into successful operation, as we trust it may, this school will become a model school, the influence and advantages of which will be felt in all directions. The plan is no new one, no untried and hazardous experiment; if such schools can succeed in the depressed States of Europe, can we reasonably have a fear as to the result in such a State as Massachusetts, or among the enlightened farmers of the United States. If we have as yet no such men as Von Thaer, Chaptal, Davy, Liebig, Dombasle, &c., it is because the exigencies of our country have not demanded them. The talent, the zeal, are here; in short, we have the *men* among us, and nothing is wanting but to have these qualities called out, and directed to the pursuits which have given so much usefulness and honor to the individuals we have named. We did indeed hope that New-York would have set an example to her sister States, of the establishment of a school for the advancement of agriculture; but if Massachusetts bears the palm from the Empire State in this respect, we shall not complain. "Example is more powerful than preaching," is probably as true now as ever; and success in the old Bay State, will doubtless abate some of the fears about interference in agriculture which unfortunately appear to have the ascendancy in this State, and if not anxious to lead, we may be at least induced to follow in the march of improvement.

Kentucky Corn Crops.

"We expected ere this to have procured the statements of Messrs. Bryan and Young of Jessamine, who produced 200 bushels of corn to the acre, last year. The extraordinary crops grown by these gentlemen were scarcely more remarkable, than the fact that neither of them has published a statement of his practice. They owe it to the cause of good husbandry to detail their practice. Mr. Williams of Bourbon, who produced nearly as good a crop (about 170 bushels) promptly gave the country the benefits of his experience."—[*Kentucky Farmer.*]

We think with the Farmer on this subject, and hope our friend STEVENSON will not let the matter rest, until full details of the course pursued to produce such an "extraordinary" crop are laid before the public. We remember when a reported crop of 100 bushels to the acre was considered a great story, and old farmers did not hesitate to assert that 100 bushels could not be made to grow on an acre of land. That crop has, however, now become comparatively common, and when we hear of that crop being doubled we think the farming community have a right not only to the evidence on which the claim rests, but the practice which produces such successful results; for it must be remembered that in farming, what is once done can be done again, and by others also under favorable and similar circumstances. We know that in fine cattle, and great corn, Kentucky is hard to beat; let her sons reveal, as far as possible, the secret of their success.

Fattening Pigs.

Mr. E. MARKS, of Onondaga county, has, at our request, kindly furnished us with the following statement respecting the pork made by him on his farm in 1840. It will be seen that it adds an important item to the products enumerated in the Farm Report published in our last:

"*First Lot.*—Six pigs ten months old. Weaned when eight weeks old, and received through the summer the slop of the dairy of three cows, and, perhaps, in the whole time one bushel of barley meal each. Weight of the heaviest 286 pounds, average weight 268. Total 1,548.

"*Second Lot.*—Twelve pigs sixteen and a half months old, turned to pasture in the spring, and fed no more until about the 10th of October. Weight of the heaviest when killed 381 pounds. Average 295 pounds. Total 3,440 pounds.

"*Third Lot.*—One sow two and a half years old, raised two litters of pigs during the season, and was fattened with the others, weight 393 pounds. One boar, purchased of Mr. Bement, three and a half years old, castrated the fore part of October, and fed with the others; weight 434 pounds. One boar pig sixteen months old, castrated the same time as the foregoing, and fed; weight, when killed, 390 pounds. Total 1,237 lbs.

RECAPITULATION.—1 lot,	6 pigs,	weight	1,548	Strained lard
2 "	12 "	"	3,540	from these hogs
3 "	3 "	"	1,237	676 pounds.
			6,325	

"The regular feeding of these hogs commenced about the middle of October, and they were slaughtered on the 5th of January, and weighed from one to three days after being killed. The six pigs were three-fourths; the twelve, from one-half to three-fourths; and the boar full blood Berkshires. The sow was half blood, and the boar pig nearly full blood. They were fed as follows: about the 10th of October they were turned in the orchard, and fed twice a day with steamed potatoes for a week or two, when they were confined in a yard, and fed with steamed potatoes and barley meal mixed in, at first at the rate of one bushel of meal to twenty-five of potatoes, but the meal was increased until three bushels were used with the same quantity of potatoes. They were fed in this way until about 600 bushels of potatoes had been used, when their feed was changed to barley and pea meal, commencing with one-fourth peas, and ending with three-fourths. The meal was prepared as follows: water was heated to boiling, a little salt added, and then meal was stirred in, until it was as thick as would conveniently pour. This soon began to ferment, and was then fed out while warm. None was kept until much soured, and very little was fed before fermentation commenced. To have had the feeding properly and most profitably conducted, the fattening should have commenced thirty-five or forty days earlier; as the same quantity of food will make more pork in September and October, than in December and January."

We may add to this statement, that the last pig in the third lot, exhibited a striking instance of the rapidity with which the Berkshires, and, indeed, some other pigs, will take on fat. His gain, from the time he was put up until slaughtered, being at the rate of about three pounds five ounces daily. This, it is true, is not quite equal to the gain of Mr. W. P. CURD's Berkshire, (see Cultivator, vol. 7, page 188,) still we imagine few instances can be found of an equal gain in the same time.

Profitable Cow.

WE find in the Essex Ag. Transactions for 1840, a statement of C. F. Putnam, respecting his cow which obtained the premium, giving the quantity of milk produced monthly for the year, the value of the milk and the cost of keeping. The quantity of milk was 4,214 quarts, or an average of 12 quarts daily for the year. The value of the milk was $244; and the total expense of keeping, milking, &c., was $91.53. Leaving a nett profit for the year, of $152.50. Mr. Putnam resides at Salem. Several other cows scarcely inferior were also offered for premiums; and such instances illustrate the propriety of keeping none but the best animals, since the cost of keeping is no more, and the product so much greater.

Colored Cheese.

Considerable complaint has been made in England, as to the effect of colored cheese, and it is strenuously maintained by competent judges, that the use of Annatto, which is the principal coloring material, must have a pernicious effect. The matter is like to be fully investigated

New-York State Agricultural Society.

At a meeting of the Executive Committee of the New-York State Agricultural Society, at the Exchange, Albany, on the third Wednesday of April, 1841,—present Messrs. Walsh, Vail, Randall and Tucker. The President being absent, the chair was taken by Geo. Vail, Esq.

On motion of Mr. Randall, seconded by Mr. Walsh, the follow resolution was unanimously adopted:

Resolved, That the New-York State Agricultural Society will hold their autumnal Fair in the village of Syracuse, on *Wednesday* and *Thursday, the 29th and 30th days* of September next.

The report of the commitlee appointed to make out a Premium List, was taken up, and after discussion, referred to Messrs. Randall, Bement and Tucker, to report complete at the next meeting.

The following gentlemen were admitted members of the Society:

Annual Members—[*Paying $1 per year.*]

Abbott, Warren, Otisco.	Griffin, Lewis B., New-York.
Angell, Job, New-Hamburgh.	Holme, John, Lansingburgh.
Clift, L. D., Carmel.	Hopkins, Ira, Auburn.
Curtis, Roswell, Owasco.	Pelton, Elisha, Otisco.
Dill, John B. Auburn.	Pomeroy, Stephen, do.
Fountain, Tyler, Peekskill.	Randall, H'ry S. Cortlandville.
Gaylord, Eber, Otisco.	Thompson, Jas. ($5) Ballston.
Gaylord, Hubbard M. Otisco.	Williams, Wilmot, New-York.

Letters were read from A. Dey, Esq., and Wilmot Williams of New-York, Hon. James Thompson of Saratoga, T. C. Peters of Genesee, Willis Gaylord of Onondaga, Gouveneur Morris of Westchester, L. D. Clift of Putnam, and S. Colman of Otsego.

Resolved, That Gouveneur Morris and Jerrod Crane, be added to the General Committee for the county of Westchester—that L. D. Clift be added to the same Committee for the county of Putnam; S. Colman for the county of Otsego, and Charles Broom for the county of Sullivan

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At a meeting of the Executive Committee of the N. Y. State Ag. Society, held at the Society Room in the Exchange, Albany, on the 3d Wednesday of May, the President of the Society took the chair—Present, Messrs. Bement, Nott, Prentice, Walsh and Tucker. F. Rotch, Esq., Ex-President of the Society, and President of the Farmer's Ag. Society of Otsego, being present, was invited to unite with the Committee in their deliberations.

Letters were read from Orlo Steele and A. Rice, of Oswego, Eli C. Frost of Chemung, D. D. Campbell of Schenectady, and Elon Comstock of Oneida.

The following new members were admitted to the Society:

Life Members—[*By the payment of $50.*]

ARCEIBALD McINTYRE and JOHN TOWNSEND, of Albany.

Annual Members—[*Paying $1 per year.*]

Brockway, Joseph, Albany.	Johnson, Benj. P., Rome.
Broom, Charles, Fallsburgh.	Leonard, Fred. Lansingburgh.
Campbell, D. D. ($5) Sch'y.	Marks, Enoch, Navarino.
Catlin, Phineas, Catherine.	Park, John B., Hannibal.
Clark, Zenas, Pottsdam.	Rice, Arvin, do.
Cook, Charles, Havana.	Savage, Hon. John, Salem.
Crawford, Jno. p. m. Moreland.	Skinner, James H., Hannibal.
Dayton, John A., New-York.	Steele, Orlo, Oswego.
Eames, Lewis, Stokes.	Strachan, J., Waterford.
Frost, Eli C., Catherine.	Thorburn, William, Albany.
Geddes, George, Geddes.	Titus, John, Hannibal.
Goodwin, E. H., Havana.	Wiltse, Martin, do.

Mr. Randall, from the committee to prepare a premium list, made a report, which, after a prolonged discussion, and various amendments, was adopted, and ordered to be published.

The President, and Messrs. Grove and Tucker, were appointed a committee on Diplomas and Medals.

Resolved, That the next meeting of the Committee be held in Troy on the 3d Wednesday of June.

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CATTLE SHOW AND FAIR

Of the N. Y. State Agricultural Society—to be held at Syracuse, Sept. 29 and 30, 1841.

The New-York State Agricultural Society will hold a Cattle Show and Fair at Syracuse, on the 29th and 30th days of Sept., 1841, at which time the following Prizes will be awarded. The Premiums offered, are numerous rather than large, the Society preferring to make their appeal to the emulation and public spirit of our agricultural population, rather than to that avarice which can alone be called into action by the inducement of large rewards.

—

LIST OF PREMIUMS.

ON CATTLE.

I. BULLS—*Of any breed, 3 years old and over.*

For the best,	$20	For the third best,	$8
For the second best,	12	For the fourth best,	*Diploma.*

II. BULLS—*Of any breed, over 2 and under 3 ye rs old.*

For the best,	$20	For the third best,	$8
For the second best,	12	For the fourth best,	*Diploma.*

III. BULLS—*Of any breed, under 2 years old.*

For the best,	$12	For the third best,	$5
For the second best,	8	For the fourth best,	*Diploma.*

IV. COWS—*Of any improved breed, 3 years old and upwards.*

For the best,	$20	For the third best,	$8
For the second best,	12	For the fourth best,	*Diploma.*

V. HEIFERS—*Of any improved breed, 2 years old and over.*

For the best,	$12	For the third best,	$5
For the second best,	8	For the fourth best,	*Diploma.*

VI. HEIFERS—*Of any improved breed, under 2 years old.*

For the best,	$10	For the second best,	$8
For the third best.	*Diploma.*		

VII. COWS—*Cross between the native and improved breeds.*

For the best,	$12	For the third best,	$6
For the second best,	9	For the fourth best,	*Diploma.*

VIII. HEIFERS—*Cross between the native and improved breeds.*

For the best,	$10	For the third best,	$5
For the second best,	8	For the fourth best,	*Diploma.*

IX. COWS—*Native breeds.*

For the best,	$10	For the third best,	$5
For the second best,	8	For the fourth best,	*Diploma.*

The greatest combination of those points or properties which indicate milking qualities and an aptitude to take on flesh on the more valuable parts, together with general beauty of form, (size in itself not being considered a criterion of excellence,) will be the considerations which will govern the viewing committee in awarding premiums in the above classes.

—

ON HORSES.

For the best Stallion,	$20	Best breeding Mare & Colt,	$20
For the second best,	12	For the second best,	12
For the third best,	8	For the third best,	8
For the fourth best,	*Diploma.*	For the fourth best,	*Diploma.*

A variety of horses possessing size, strength, and endurance for field labor, combined with that action which qualifies for the carriage or saddle—in short, the horse *of all work*, is probably the most profitable class which our farmers can now engage in rearing, and to such therefore, will the preference of the Society be given.

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SWINE—*Over 10 months old.*

For the best Boar,	$10	For the best breeding Sow,	$10
For the second best,	8	For the second best,	8
For the third best,	5	For the third best,	5
For the fourth best,	*Diploma.*	For the fourth best,	*Diploma.*

In awarding premiums on hogs, reference will not be had exclusively to size or to present condition, but to that form and that proportion of bone and offal to more valuable parts, which promises the greatest value from the least amount of feed.

—

SHEEP—I. Long Wooled.

For the best Buck,	$10	For the best pen of 3 Ewes,	$10
For the second best,	8	For the second best,	8
For the third best,	*Diploma.*	For the third best,	*Diploma.*

II. Middle Wooled.

For the best Buck,	$10	For the best pen of 3 Ewes,	$10
For the second best,	5	For the second best,	5
For the third best,	*Diploma.*	For the third best,	*Diploma.*

III. Fine Wooled.

For the best Buck,	$10	For the best pen of 3 Ewes,	$10
For the second best,	5	For the second best,	5
For the third best,	*Diploma.*	For the third best,	*Diploma.*

The term "long wooled" is designed to include the Leicesters, Lincolns, Cotswolds, and all the English varieties of sheep which furnish the quality of wool suitable for combing—the "middle wooled" the South Down, Norfolk, Dorset, Chevoit, native, &c.—the "fine wooled" the Spanish and Saxon varieties of the Merino and some of their crosses.

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FARM IMPLEMENTS.

For the best *Plow*,	$30	Best *Thrashing Machine*,	$20
For the second best,	20	For the second best,	10
For the third best,	10	For the third best,	*Diploma.*
For the fourth best,	*Diploma.*	For the best *Horse Rake*,	8
For the best *Harrow*,	8	For the second best,	5
For the second best,	5	For the third best,	*Diploma.*
For the third best,	*Diploma.*	For the best *Fanning Mill*,	8
For the best *Cultivator*,	8	For the second best,	5
For the second best,	5	For the third best,	*Diploma.*
For the third best,	*Diploma.*	For the best *Straw Cutter*,	8
For the best *Drill Barrow*,	8	For the second best,	5
For the second best,	5	For the third best,	*Diploma.*
For the third best,	*Diploma.*		

Discretionary premiums will also be awarded to manufacturers of the best sub-soil and side-hill plows, hoes, shovels, spades, forks, rakes, and other farming utensils.

The economy and durability, as well as the excellence, in other respects, of farming implements, will be taken into consideration.

Discretionary premiums will be awarded for the best samples and best varieties of winter and spring wheat, corn, rye, barley, oats, peas, beans, buckwheat, hemp, flax, broom corn, maple, and beet root sugar, &c. &c.

Also, potatoes, turneps, sugar beets, mangel wurtzel, carrots, pumpkins, and horticultural products generally.

Also, fruits of all kinds, and flowers.

The varieties, when different from those in common use, should be properly explained, the method of culture, &c.

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Prizes to be Awarded in Albany.

The following premiums will be awarded at the annual meeting of the Society on the 3d Wednesday of January, 1840:

BUTTER AND CHEESE.

For the best sample of Butter, not less than 100 pounds,	$20	For the best sample of Cheese, not less than 100 pounds,	$20
For the second best,	12	For the second best,	12
For the third best,	8	For the third best,	8
For the fourth best,	5	For the fourth best,	5
For the fifth best,	*Diploma.*	For the fifth best,	*Diploma.*

FIELD CROPS.

For the best acre of *Wheat*,	$20	The best acre of *Potatoes*,	$15
For the second best,	*Diploma.*	For the second best,	*Diploma.*
The best acre of *Barley*,	$15	Best acre of *Sugar Beets*,	$15
For the second best,	*Diploma*	For the second best,	*Diploma.*
For the best acre of *Rye*,	$15	Best acre of *Ruta Baga*,	$15
For the second best,	*Diploma.*	For the second best,	*Diploma.*
For the best acre of *Oats*,	$15	The best acre of *Carrots*,	$15
For the second best,	*Diploma*	For the second best,	*Diploma.*
Best acre of *Indian Corn*,	$20	For the best acre of *Peas*,	$15
For the second best,	*Diploma.*	For the second best,	*Diploma.*

The rules and regulations which will govern the Society in awarding their Premiums, will be published in our next.

The prizes will be paid in plate or cash at the option of the winner. Should not the Society obtain a Diploma in season, some Agricultural Work or Print may be substituted for the Diploma

County Agricultural Societies.

Ontario.—The Fair of this society is to be beheld at Canandaigua on Tuesday the 12th of October next. Their premium list is extensive and liberal, and embraces three premiums each on the best crops of wheat, corn, barley, oats, peas, beans, potatoes, ruta bagas, white turneps, mangel wurtzel, carrots, and clover seed, amounting to $152. Premiums amounting to $90 are offered on various household manufactures, including butter, cheese, flannel, carpets, cloth, silk, cocoons, &c. For mechanics, $34. On maple sugar, $16. On animals, the prizes amount to $329. Discretionary prizes to females, $25. In all, over $600.

The Executive Committee of the Ontario Ag. Society on the 18th May examined nine samples of maple sugar, of 100 pounds each, which were presented for the Society's premiums. The committee say—"All the samples were good, and most of them superior." They awarded the 1st premium for the best 100 lbs. maple sugar, to *Benj. Gates, Jr.* of East Bloomfield—the 2d premium to *Fred. Munson*—the 3d, to *F. J. Munson*, and the 4th to *Fred. Rice*, all of E. Bloomfield.

Tompkins.—The Ag. Society of this county, have issued their Preminm List for 1841. The prizes are small but numerous, embracing a larger variety of articles than usual, particularly in the mechanical and household arts. Their Fair is to be held at Ithaca on the first Wednesday of October.

Saratoga.—The Clerk of this county, in pursuance of the Agricultural Law, has issued a spirited and appropriate notice, calling a meeting at the Court-house in Ballston on the 24th of June, at one o'clock P. M. for the purpose of organizing an Agricultural Society in accordance with the provisions of said law.

Oneida.—The following letter shows with what spirit the farmers of this county have entered on the work of agricultural improvement:

Messrs. Gaylord & Tucker—We organized the Oneida County Agricultural Society on the 21st of April, when a very excellent address was delivered by H. S. Randall, Esq. of Cortlandville.

Hon. POMEROY JONES, President.

Thos. Goodsell, John Parker, Harvey Bradley, Ingham Townsend, Vincent Tuthill, A. Carmichael, Riley Sheppard, Lester Barber, Erastus Jeffers, Salmon Case, V. Presidents.

E. P. Johnson, Corresponding Secretary, Rome.
S. Moulton, 3rd, Recording do.
Jay Hathaway, Treasurer.

Managers.

Elon Comstock,	George Walsworth,
Wm. B. Wright,	Isaac G. Greene,
George Bristol.	

The officers of the society held a meeting to-day, and resolved to hold a fair on the 3d Wednesday in October. It was also resolved to raise $400 in addition to the sum appropriated by the State.

A list of articles for premiums was agreed upon, and will be published in all our county papers. I believe from the spirit manifested already, that this county will enter into the work with zeal and energy; and that we shall soon witness the happy results from a combined effort to improve our agriculture in its various departments. Such an effort has long been needed in this rich and populous county. Although the products of our dairy, perhaps equal any in the State, still, in many particulars, we are very deficient. In fine cattle we are far behind many other counties; and our breed of horses is most miserable. We trust an impulse will now be given to the work, that will carry forward improvement, until the Empire County shall at least equal in every respect the other counties in the State.

Yours, B. P. JOHNSON."

American Butter Abroad.

In the London Commercial Journal of March 27, there are some remarks on the subject of American butter, part of which we copy as worthy the attention of our butter makers. There is every probability that butter and cheese to a considerable amount will be annually exported from this country, and it seems very desirable that it should be of good quality. This can never be the case, particularly with butter, unless more attention is paid to its manufacture. There is no disguising the fact, that immense quantities of butter find their way to the market, in a condition which renders it unfit for any thing but grease. Hot weather, or the shortest voyage, renders it intolerably rancid. New butter made in Holland, may be carried to any distance, and in any climate, without suffering material deterioration, and hence it is in such demand for exportation. Vast quantities annually find their way to Great Britain for domestic consumption and otherwise, and the high prices demonstrate the estimation in which it is held. There are no finer pastures in the world, than in the United States, particularly those north of the Ohio, and if proper attention and skill was given to the products of the dairy, those products might be unrivalled. There is a considerable amount of excellent butter made in the country, but it is used for domestic consumption, and the proportion of the first rate article bears but a slight comparison with the whole. There is less difference in the cheese of this country and European ones, than there is in the butter; and consequently less difference in the prices. But in both butter and cheese, so far as the great mass of these products are concerned, there is room for a decided improvement, and we doubt not our dairy women would consult their own interest, as well as the credit of the country, in giving more care to the production of superior articles; but to the extract.

"At a public sale of American butter at Liverpool it fetched the best sorts, 84*s.*, seconds 72 to 74*s.* duty paid; while inferior, sold only at 43*s* 44*s.*, in bond of which the parcel chiefly consisted. The quantity arrived at the London market, show the same results, the principal part being sold for greasy purposes. The American makers of butter are very far behind the Irish, English or Dutch; from the first operation to the last, all seems to be done without system or care. The same materials would, if managed by experienced hands fetch in this market 25 or 30*s.* more money. There is evidently no proper attention paid to the making, salting, putting down or packing. A correspondent of one of our commercial papers says—"The best American butter imported into England this year, has sold not higher than 95 shillings, while the best from the continent has fetched 110 to 115 shillings; this latter will keep for years."

WORK FOR THE MONTH.

The seeds of the farmer are by this time usually sown or planted; and the labor now is principally such as relates to their after culture. This is at all times important, as on it the goodness of the crops are mainly depending.

Wheat.—But little can be done to promote the growth of this grain now, but much may be done to add to its value and its quantity. Weeds are sad detractors in both these respects; and the farmer who weeds his wheat fields thoroughly, will find his account in doing it. Chess, cockle, charlock, red root, and the whole tribe of intruders, may be checked, or extirpated in this way.

Sheep.—Look well to your sheep after washing and shearing. We have known a cold storm make bad work with a flock of fine wooled sheep, soon after shearing; and protection is rarely more necessary than at such times. Exposure to such storms, if not immediately fatal, lays the foundation of numerous diseases. Keep the bottom of your salt troughs covered with tar, and your sheep will rarely be troubled with worms in the head.

Corn.—If your land was deep and friable, and properly fitted for corn, there is little advantage in hilling it. It is sometimes said corn requires hilling to support it. Nature disproves this argument by the stiff, bracing roots thrown out by this plant, at the time they are wanted, and for this very purpose. On wet lands, planting on ridges and hilling may be advisable, but such lands should never be chosen for corn. If wet, drain thoroughly in the first place. Allow no weeds to grow in your corn, and do not fear to stir the surface in dry weather. Every weed absorbs nutriment enough to make a good ear of corn, and if any remain after the plow cannot be used, pull them up, or cut them with the hoe.

Potatoes.—Some have recommended that after the last hoeing of this root, a coating of straw be spread over the plants and between the rows. This will check weeds, keep the ground moist, and add to the crop. If potatoes are hilled, it should be with one broad and flat, and the same remark will apply to those made around corn.

Ruta Baga.—This is an excellent crop, and if not quite as certain and valuable here as in Britain, it is one which ought not to be neglected by any farmer. Here, where we have no bone dust to give the turneps a start, a little fine well rotted manure put under or in the drills will aid them much. The most critical period is before the formation of the rough leaf; afterwards all they require, is clean culture, and proper thinning. If you have not a quantity of carrots or sugar beets in the ground, do not neglect the ruta baga. The proper time of sowing here, is from the tenth to the twentieth of June. The average crop may be estimated at five or six hundred bushels per acre.

Weeds.—Wage an unceasing warfare with weeds in every form. They are continually increasing on most farms, and new ones are yearly added to the catalogue of nuisances. It is not too much to say that in many cases, the annual profits of a farm are diminished from one-third to one-half by this cause alone. Thorough fallowing in the English method is the best remedy for the thistle; cutting Johnswort, and applying plaster to invigorate the other grasses will check, if not destroy this weed; the annuals, such as wild mustard, cockle, steinkrout, &c., must be pulled by hand carefully before ripening their seeds; and the elder, life everlasting, and others, must be cut up by the roots.

Plum Blight.—Examine your plum and Morello cherry trees very carefully this summer, and if you discover on any branches those unsightly swellings or black excrescences that are a sure precursor of the ruin of the tree, if left to progress undisturbed, cut off the limb at once and burn it. It is distressing to the lover of these fine fruits, to witness the destruction going on in these trees, without an effort, or scarce one, to save them. Attention will preserve trees, and it seems nothing else will.

Pear Blight.—This disease, doubtless caused by an insect, may be detected by the drying up of the leaves on a branch, and as soon as noticed, the branch should be separated at once, and the infected part burned. If left on the tree, it will in most cases spread in a little time over the whole, and cause death. It is better to cut the branch a considerable distance below where the bark appears affected, so as to be sure of eradicating the evil.

Summer Fallows.—If the fields you are intending to sow with wheat in the autumn, be infested with weeds, or the sward be tough, you had better commence your fallow as early in the season as possible. There is no danger of making the land too clean, or the soil too fine; and each plowing should go a little deeper than the preceding.

Manures.—It is not a good plan to apply manures directly to the grain crop. It is better to give them to corn and roots; and have these followed by spring grains, and grass seeds with clover, which, after being mown or pastured, (the last is best,) may be followed by wheat. Applied directly, they give too much straw, while the berry is inferior. Corn and roots require all the forcing they can receive from manures. If put on wheat, manures should be made into compost, by being placed in alternate layers in heaps, with turf, lime, swamp mud, or other substances, that in the process of decomposition, will retain the active or soluble parts of the stable manures, and which are too frequently lost to the farmer.

The Garden.—The farmer's garden will now require care and attention, and will well reward him for both. Thin out your onions, carrots, beets, &c. Sow beets for fall or winter use. Do not leave too many melon or cucumber plants in a hill. It is good to put in plenty of seed so as to guard against casualties, but three or four of the most vigorous and healthy stems only should be allowed to remain for fruit, the rest to be pulled up. Kidney beans planted in June, will sometimes bear profusely and are always welcome.

Watering Plants.—Heat and moisture are indispensable to the growth of plants; and a drouth in June frequently has a most injurious effect. Garden plants may be much aided by watering. A rose nose watering pot should be used, and rain water is always to be preferred. If well or spring water is used, it should be kept in a tub or other vessel exposed to the sun and air for a day or two before using.

Strawberries.—After giving their strawberry beds a thorough clipping and cleaning, some at this time cover the spaces between the rows with long straw, which not only keeps the ground more moist, but prevents the large stems of fruit from becoming dirty by contact with the earth. The strawberry is a delicious, easily cultivated fruit, and if you have not a bed of them, don't forget next September or October, to provide a supply of the best kinds.

Cabbages.—Transplant cabbages for late fall or winter use. They may sometimes require a little protection, if the sun is hot and the sky cloudless; but usually, if well set, and the earth not shaken off in removing, they will suffer but little. Early cabbages are frequently attacked by a small white worm that preys on the stem in the ground. Judge Buel found that hot water, while it did not injure the cabbages, freed them from the worm effectually.

Agricultural Statistics.

We give below, a table embracing the wheat, corn, and other grain, and the potatoes grown in the United States in the year 1839, according to the returns made by the Marshals, with the exception of North Carolina, Kentucky, Florida and Wisconsin. We hope hereafter to give full returns of all the items of agricultural and manufacturing industry in the country, believing that such statistics will be welcome to a large part of our readers. Of the amount of other grain than wheat, in the table, more than 300 millions of bushels was corn, the remainder, oats, rye, &c. Of the wheat grown in the U. S., it will be seen that more than one-sixth—of other grains, about one-tenth, and of potatoes, nearly one-third were produced in this State. Ohio gives the greatest amount of wheat; and from other returns, we have seen Tennessee produced the greatest crop of corn. A very large part of the immense potato crop of this State, was used for making pork, it taking, in this respect, the place of corn in the western and southern States. Can it be wondered at that the fiscal affairs, and general condition of the State of Ohio, should be prosperous, when it is known that that State last year sold nearly ten million bushels of wheat; while its resources in every other kind of produce are most ample. In the present table, the immense importance of the cultivated crops is seen at once; the aggregate of the domestic animals, manufactures and crops other than those intended for food, will, when collected, exhibit an amount truly enormous. It is not, perhaps, too much to estimate the total value of the products of this country in a single year, at twelve hundred millions of dollars. Truly, this is a vast empire; one, the resources of which are unlimited, and one in which plenty and competence are always the attendants of forethought, honesty and industry.

States.	Bushels of Wheat.	Bushels of oth'r grain	Bushels of Potatoes.	Population.
Maine,	848,166	2,630,996	10,392,380	501,793
New Hampshire,	442,984	3,084,854	6,234,901	284,574
Vermont,	642,963	4,051,818	8,206,784	291,948
Massachusetts,	188,923	3,604,082	5,385,662	737,699
Rhode Island,	3,088	697,408	904,773	108,839
Connecticut,	86,980	3,995,175	3,414,227	310,015
New York,	11,883,907	39,540,501	30,058,000	2,428,921
New Jersey,	774,023	9,922,044	2,074,118	373,306
Pennsylvania,	13,029,736	40,198,521	5,626,925	1,724,029
Delaware,	218,165	3,086,705	200,712	78,085
Maryland,	3,511,443	12,772,280	1,088,919	469,232
Virginia,	10,066,809	50,054,336	2,873,447	1,239,797
North Carolina,	.....	.....	.....	753,110
South Carolina,	708,925	16,236,512	2,697,713	594,398
Georgia,	1,732,956	18,703,310	1,184,386	*677,197
Kentucky,	.....	.....	.....	†777,397
Ohio,	16,214,260	48,797,112	5,600,586	1,519,467
Tennessee,	4,547,372	49,545,443	2,373,034	829,210
Louisiana,	103	6,622,398	845,935	351,176
Alabama,	746,106	16,146,577	1,560,700	‡569,645
Mississippi,	196,476	13,669,940	1,538,628	375,651
Missouri,	946,077	13,840,190	684,492	381,102
Indiana,	4,154,256	34,086,545	1,548,190	683,314
Illinois,	2,740,380	28,354,932	1,956,887	474,404
Michigan,	2,189,263	6,182,273	2,051,339	211,705
Arkansas,	112,200	4,084,712	290,887	95,642
Florida,	.....	.....	.....	54,207
Wisconsin,	.....	.....	.....	30,752
Iowa Territory,	157,747	1,559,230	234,060	43,068
Dist. Columbia,	12,147	60,717	12,035	43,712
Total,	66,089,947	419,776,871	102,459,926	17,100,572

* Returns from nine counties wanting, seven of which contained in 1830, 55,881.

† Returns from five counties not included. Four of the five counties contain, according to the marshals returns, 85,701.

‡ Returns from Carter county wanting.

The amount of population in seven counties of Georgia in 1830, and that of four counties of Alabama, mentioned in this note, are included in the sum total.

Diseases of the Silk Worm.

It is known to most of those who take an interest in the silk culture, that in many places, particularly at the south and west, the hopes of the grower were wholly destroyed by the attacks of a disease which sooner or later proved fatal to most of the worms. Mr. G. B. Smith, Editor of the Silk Journal at Baltimore, has announced to the public, that by a comparison of the disease, and the condition of the worms, with one described and figured in a new French work on the Silk worm, he has discovered that the disease so fatal here last summer, was the one well known and dreaded in Europe as the La Muscadine, and which destroys annually where no preventive measures are used, not far from 50 per cent of the worms. The preventive and the remedy for this disease is "*air slaked lime* sifted through a fine sieve on the worms, three times a week if healthy, and once a day if diseased, in the morning before the first feeding, and after cleaning the hurdles. The quantity of lime sifted on the worms may be sufficient to whiten the worms and leaves well, and it should be commenced when the worms are half grown, say twelve to fifteen days old. This remedy has, during the past two years, enabled those persons in France who used it, to save and obtain cocoons from 97 per cent of all the worms hatched."

This annunciation and discovery, particularly of a remedy, we consider a very important one. Although Mr. Smith has not alluded to the fact, this disease constitutes a striking instance of what is called *animal dry rot*; that is, where death occurs in consequence of the spread of a parasitic fungus, which like other funguses is contagious, and wherever it appears, spreads with astonishing rapidity. The following extract from an European publication will show its nature, and perhaps furnish a clue to the reason of the efficiency of lime as a remedy:

"A common instance of animal dry rot, is found in the disease of silk worms called La Muscadine. Silk worms of all ages are liable occasionally to become sickly and die, soon after death becoming stiff, and acquiring such a degree of firmness, as to be readily broken. They then throw out from their surfaces a sort of white efflorescence, which is the fructification of the fungus called Botrytis Bassiana, their inside being filled with the thallus of the same plant. If some healthy worms are placed beneath a bell glass, along with a small portion of a worm killed by the Botrytis, they soon catch the disease, exhibit the same symptoms as those already mentioned, and eventually perish. If healthy crysalis are inoculated by the introduction below their shell, of a little of the Botrytis matter upon the point of a needle, they also sicken and die."

The Season.

That our readers may compare the present with some past ones, and thus judge of their agricultural prospects, we give the temperature, &c. of the first five months in each, for a few past ones.

Month.	1838.	1839.	1840.	1841.
January,	33	26	19	28
February,	14	32	35	24
March,	40	35	37	36
April,	39	54	49	44
May,	57	61	64	

It will be seen that the average temperature of the first months of the present season is much lower than before, (the time noted here being two o'clock,) while at nine o'clock, the difference appears still greater. There has been an unusual number of cloudy days, with frequent rains and snows, the whole combining to produce one of the most backward seasons known in many years. We have not as yet (May 15,) seen a single fruit tree in blossom, and the buds have hardly began to put forth. It is clear there is this year to be no spring, but we are to pass from the snows of winter to the heats of summer. The season has been a very severe one for animals, as in many parts of the Northern States there has been sleighing for six months, and we still hear that in the present month snow has fallen to the depth of 18 or 20 inches in northern New-York and Vermont. Fodder for cattle has in consequence advanced to unprecedented prices, is extremely scarce, and many animals have perished. The journals from Vermont, New Hampshire, Maine, and the northern counties of this State, as well as private letters, assure us the distress has been, and still is great, as there is as yet little or no grass. We have had much N. E. wind, and this has been invariably accompanied with bad weather, sleet and snow, preventing labor, and giving a gloomy aspect to every thing. The immense quantities of drift ice encountered in the Atlantic for a month or two past in uncommonly low latitudes, will in part account for our N. E. storms and cold, and indeed up to this time, a change of the wind to the N. or N. E. brings with it an icy atmosphere clearly indicative of its origin. So wet has been the season, that on many farms, a plow has not yet been started, nor a seed sown. The chimney swallow has however, appeared to-day, and it is to be hoped it will be the harbinger, as it usually is, of a clearer sky, and breezes from the sunny south. One of the worst results, is the immense amount of work it throws upon the husbandman at once, producing a haste in getting in the crops which is necessarily unfavorable to their being done in the best manner. There is no reason, however, for despondency. Seed time and harvest are certain; and careful after culture will in a great measure supply the loss of time to the farmer. Winter wheat, so far as we are able to learn, presents an appearance quite equal to the usual average of the country; and if the season forbids the culture of one crop to the desired extent, the farmer must supply the deficiency by another. [*Otisco, May* 15.]

Subsoil Plowing in Massachusetts.

In the Transactions of the Essex Agricultural Society for 1840, Mr. PHINNEY, of Lexington, Massachusetts, has given an account of the use of an implement constructed for him by Prouty & Mears, for breaking up the pan that is very frequently found in lands that have long been plowed, at the depth to which the plow usually reaches, occasioned by the pressure and consolidating effect of the repeated passage of that implement, aided perhaps by the treading of the animals employed in the work.

In cultivating a field which had been many years under the plow, Mr. P. noticed what in England is called the "upper crust." It was so hard as to be apparently as impenetrable to the roots of plants as a piece of marble, and discovered at once the cause of the failure, in a great measure, of the potato crop the year previous. To remedy this obstacle to successful cultivation, Mr. P. had a plow constructed "the beam five feet long and six inches square, of white oak, well ironed, with three tines in nearly a straight line, made of the best Swedes iron, one and a half inches square, and extending twelve inches below the beam, with a spur at the foot some less than that of the tine of the cultivator, with strong handles, and an iron beam extending from each handle to the centre of the beam, by which the balance is easily preserved." This implement followed the drill plow, and drawn by two yoke of oxen, broke up the "crust" and loosened the earth to the depth of fourteen inches. By the use of this simple but effectual implement, Mr. P. nearly doubled his root crop, and by giving the roots an opportunity to strike deep, the severe drouth which injured the crops on other lands was not felt on the deep plowed soil.

We are glad a farmer of Mr. Phinney's skill and experience has brought this business of deep plowing before the public; and as there are large quantities of land in this country that require such a thorough breaking up, and as the implement described is both simple and effectual, it is to be hoped that many will avail themselves of it to improve and deepen their soils, and as a necessary consequence increase the quantity and quality of their crops. Mr. Phinney's subsoil plow is much less costly and complicated than the English one, and apparently quite as effectual, while at the same time it works much easier.

Discovery in the Preparation of Timber.

We are indebted to our friend, C. CARMALT, of Friendsville, Pa., for a copy of a translation from the collection of *Savans Etrangers*, of a report made by a committee of the French Academy on a method discovered by M. Boucherie of Paris, "for rendering wood more durable, preserving its elasticity, preventing the shrinking and variation in size from dryness or humidity, diminishing its combustibility, increasing its tenacity and hardness, and even giving it a variety of durable colors and odors."

The possibility of impregnating wood with fluid substances, has long been known; and the fact has been taken advantage of for many economical purposes; but where this has been done, powerful forcing machines, and a prolonged action have been required to complete the impregnation. The discovery of M. Boucherie, consists in causing the various fluids required, to penetrate the tree by the simple operations of nature itself. One of the most beautiful proofs of the fact that solutions of various substances are taken up unchanged, may be seen by sprinkling the soil in which a white hyacinth, in a state of blossom, is growing, with the juice of the *Phytolaca decandra*, when the white blossoms assume in one or two hours a red color, which again disappears in a few days under the influence of sunshine, and they become white as before. The colors of some other flowers may be changed in a similar manner.

The method of Dr. Boucherie is to place the bottom of a trunk, in the fluid you wish to have absorbed, and in a few days it will be found that the liquor has ascended to the highest leaves. "For instance, let a tree full of sap, be cut off at its foot, and plunge the foot in a vessel containing the liquor you wish to have aspired, and the liquor will rise to the most elevated points. All the vegetable texture is invaded except the heart of the tree, which with the old nuts, resist the penetration of the absorbed substance." We have room only to state some of the principal results; the applicability of the method to a multitude of cases will be seen at once by the intelligent reader.

1. It is not necessary that the tree should retain all its branches; a single boquet of branches and leaves at the summit, is sufficient to produce the requisite circulation, or rather ascension of the fluid.

2. It is not necessary the tree should remain erect. It may be felled, the branches, (the terminal ones excepted,) trimmed off, and then the base being put in connection with the liquid to be absorbed, it will gradually penetrate every part.

3. It is not indispensable to cut the tree down. A cavity made by an axe, or dividing a large part of its substance with a saw, will suffice, for in placing the liquid in contact with the cavity or cut, it will be rapidly absorbed.

4. The substance chosen to give durability to wood, by preserving it from dry or wet rot, is the pyrolignite of iron. To render it incombustible, or not liable to shrink and swell from dryness or moisture, chloride of calcium, and the mother water of salt marshes or works, is used.

The pyrolignite of iron is made by putting old iron into pyroligneous acid, produced from the combustion of wood in making charcoal. The colors are given by preparations which will affect the wood directly, or the substances previously introduced. Thus the color of ebony is produced by saturating the tree with the pyrolignite of iron, and following this with a tanning matter which will dye the whole black, by converting the first liquid into ink.

The effect which such preparations of iron must have on the durability of wood, may be considered one of the most important parts of the discovery, taken in connection with the ease of the saturating operation. Numbers of experiments have been made in the wine cellars of Bordeaux, on hoops prepared by the author of the process. Common hoops fell to pieces at the slightest touch or strain, when the prepared ones were as solid as on the first day of their use. We consider this an important discovery, not only as relates to its economical purposes, but for the light it seems capable of throwing on some hitherto unsettled questions of vegetable physiology.

The Peach Worm.

The peach is one of the most delicious and easily cultivated of fruits, in any country where the climate does not interpose obstacles to its success; but within a few years a disease called the yellows, has destroyed many of the best trees or orchards in the northern and middle States; and where this disease has not appeared, the worm called the peach worm, which bores through the bark around the surface of the earth or below, and by feeding on the juices, eventually destroys the tree, has produced great mischief.

For the yellows, there does not appear to have been any preventive or cure discovered, and its cause is enveloped in uncertainty. The disease is contagious, and is propagated by budding or grafting from diseased to healthy trees. The greatest care is therefore required in selecting or transplanting trees, that none but those perfectly healthy be used; as one unsound one may be the destruction of an orchard. The worm may be destroyed by removing the earth around the tree, when if the worm is present, holes will be seen in the bark, and quantities of the cuttings of the bark or wood thrown out, will be around them. A flexible barbed wire, will in some instances extract the worm; in others he must be cut out with a knife; in any event he must not be allowed to remain, as it will be at the expense of the loss of the tree, if permitted. Saturating the earth around the tree with soap suds occasionally, has been highly recommended as a preventive, and in some instances, hot water has been poured around them with success. It is very possible that injecting hot water into the openings made by the worm might destroy him; if so, it would be better than deep or extensive cuttings after the depredator.

Dr. Anderson of Virginia, has stated in the Farmer's Register, that he has been very successful in growing the peach, and in preventing the attack of the worm. He says:

"Having observed in the practice of medicine, that the cedar berry, [red cedar, we presume,] was a powerful vermifuge, I planted cedar cions and peach cions together six years since, in the following manner: I set one of each in a hole, with the roots entangled and set close together, believing that the strong odor peculiar to the cedar, would prove efficacious and sickening to the worm, and thereby prevent its approach to the peach tree. Every circumstance seemed to unite in favor of the experiment; there was no danger of the peach tree being choked by the cedar, because the former is a rapid, while the latter is of very slow growth. The peach trees bore the second year, and have put forth their leaves black as a cloud every season, and bore most luxuriantly every season until the last, which was the sixth year. I have set out a number since in the same way, which are all flourishing. I think a soil should be selected much mixed with sand in order to prove successful."

Theory of Manures.

From the earliest speculations on the nature of manures, down to a very recent period, manures have been divided into two classes, nutritive and stimulative, or such as furnish the direct food of plants, and such as act as stimulants or excite plants to take up and assimilate such kinds of food as is presented to them. In the first class has been placed all decayed vegetable matter, farm yard manures, animal excrements, night soil, and such other matters as having been derived from plants were considered as capable of being reconverted into vegetable matter. In the second class it has been the custom to place gypsum, lime, such salts as are found to produce a favorable effect on vegetation, as the phosphates of lime in bones, and the nitrates existing in saltpetre, soda, &c. Recent discoveries, however, serve to render it probable, that the whole system so constructed of the action of manures must undergo some essential modifications, if not a total reconstruction. It is now maintained with great plausibility, "that dung itself acts not by any power which it possesses, as having formerly been a part of living bodies, animal or vegetable, but as uniting those chemical elements, some of them mineral, which constitute the food of plants; and that a compound of these elements, artificially brought together, would act precisely in the same manner as dung."*

Thus the potash contained in a soil, or applied to it in the form of ashes, converts the silex into a silicate of potash, and in the form of a solution of that substance, acts most decidedly in promoting the growth of all the grasses, corn, wheat, and indeed all plants that contain silex in their stems or in their grain. To make grain perfect, however, other substances than those required to create straw are necessary. It is found by experience, that a great growth of straw may be produced in wheat, while the grain will be very imperfect and inferior. Farm yard dung will make as much straw as the farmer pleases, but there must be all the elements required to perfect the berry, or straw will be all that he will gain. Ammonia has been found to be one of the most efficient of fertilizers; and as this substance is a compound of nitrogen and hydrogen, and as the gluten of wheat is mainly nitrogen, it was reasonably inferred that ammonia, or such agents as would furnish it to plants, would aid a wheat crop materially. Here gypsum, burnt clay, and other things that absorb ammonia from the atmosphere rapidly, are found to produce a good effect, giving a more perfect grain than could have been expected without the use of such articles. Such absorbers of ammonia are indeed useful in other respects, than the perfection of a single crop of grain, as by the cultivation of clover and other green crops to be fed off on the ground, or left to decay there, humus, or in other words a supply of carbonic acid, so indispensable to the formation of the carbon of plants, or their woody fibre, is thus provided. It is thus by simplifying the elements of nutrition, and showing the manner in which this important function of plants is performed, that science is conferring the greatest practical benefits upon agriculture.

* See remarks by the President of the English Ag Soc.

Things not to be Done.

Sowing spring wheat without soaking in brine, and rolling in lime, is a thing not to be done. According to C. W. Johnson, salt acts an important part in germination and promoting the growth of plants; and lime, every one is aware, seems to be necessary in some form to the perfection of plants and their seeds. Both, then, should be used in sowing wheat.

Attempting to keep cattle, sheep and horses, through our long winters on straw or even hay, without roots, is a thing not to be done. Every good farmer, will therefore make his arrangements so as to secure a plentiful supply of turneps, potatoes, or carrots, for winter and spring use. These fed with the hay, will improve the stock, promote health, and bring the animals through the most trying season of the year with safety and profit.

Making a yard of the highway, and allowing your cattle and sheep to be fed, and to drop their dung where it is lost to the farm, is not to be done. This practice, though a common, is a wretched one, and should be reformed altogether. Feed your animals in stalls, if you can; if not, in yards. To do otherwise, is wasteful in the extreme.

Allowing your cattle in the spring of the year to go roaming about, poaching your meadows and pastures with their feet, is a thing not to be done. The small amount of food they can get in this way is a poor compensation for the damage they do, and besides it destroys their relish for hay, without offering any substitute.

Suffering animals to perish for want of attention, at any season of the year, is a thing not to be done. But if any do die accidentally, they should be converted to use by being covered with earth, to absorb the gases of oxygen and ammonia that are the inevitable results of animal putrefaction, and which are indispensable to the growth of plants.

Having your pig stye in such a state, or place, that your pigs shall not work for a living, is a thing not to be done. They should have a yard into which weeds, swamp muck, straw, and the scrapings of roads and ditches should be thrown to be converted into manure; and if they seem at any time reluctant to begin the task of mixing such materials, a few handfuls of corn scattered over the surface will set them to work most industriously.

Permitting the chips, pieces of bark, sawdust, &c., of your wood yard to accumulate for years, is a thing not to be done. Remember that all, which has once formed part of a plant can be converted into a plant again, and place all such matters where their decomposition will be most useful, and soonest effected.

Nearly every farm has some pond, marsh, or bog which receives a large portion of the wash of the cultivated land; and to allow this to remain without being returned to the soil, is a thing not to be done. There are some such places that may be considered as inexhaustible deposits of fertilizing matter, yet have never been drawn upon for a single load, by the neighboring farmers. Let those who have such deposits look to them.

Allowing your work to drive you, is a thing not to be done. The man who is half an hour behind his work, finds labor forever an uphill business. There is here a serious mistake committed by many farmers. They lay out more work than they can do well, or in season, and the consequence is, nothing is done at the time, or as it should be. What you do, do in season, and be sure to do well.

Being content to allow a single year to pass without correcting some error, or making some improvement in husbandry, is a thing not to be done. In conversation with an intelligent farmer the other day, he remarked that the practice of all fell behind their knowledge, or in other words, none did as well as they knew how. To put the knowledge we acquire from our own or other's experience to use, should be the aim of every one, and would soon do away the reproach that farmers are a stationary race of men.

Original Communications.

"In Agriculture, EXPERIENCE is of great value—THEORIES of little, excepting as they are directly deducible from actual experiments and well attested facts."

Letters from the West—No. 6.

It was on the morning of the 16th inst. that I found myself with a single passenger from Missouri, rolling along in a comfortable stage over the National road from Columbus for Cincinnati. I had just had a hearty welcome to the country in the way of a severe shake of the ague, but this we think nothing of here, as Quinine pills with proper care will break it up in twenty-four hours, and then we have only to get well again as fast as convenient. It was a raw, rainy day, but wrapped up in a thick cloak, with a slight fever upon my brow, and a reasonable exaltation of spirits, I do not know but I enjoyed the scene quite as well as if the sun had been shining out ever so fair. I was glad, however, to find a turn in the everlasting straight road soon after passing Jefferson, and that the tall monotonous forests with their wretched, staring, stumpy clearings had given place to a still somewhat flat, yet beautiful prairie country, interspersed with clumps and masses of trees, quite park-like, the green grass rapidly coming forward over its extensive fields, and giving a good bite to the numerous herds of cattle that were turned out to feed upon them. There were few buildings however on the road, save miserable log cabins, the land being owned in large tracts by persons resident in towns, or by others who have little taste as yet for the neat farm-house and noble barns, that so generally adorn the acres of our own more advanced State.

The season this Spring is said to be cold and backward, and at least a fortnight later than usual. No fruit trees were here as yet in blossom, but were rapidly leaving out, as well as many of the earlier forest trees. The wild willow and buckeye were quite green in their leaves, and the soft maple, beech and white elm fast following in vegetation. We arrived at Springfield in the afternoon; it is a pretty town situated in a valley of a branch of the Mad river, and contains as near as I could judge about 3000 inhabitants. Here we left the National road and turned off for Dayton, on quite as good a McAdam.—We arrived at this place late at night, and were off early in the morning, so that I had no time to examine any of the fine stock that is said to be owned in this vicinity. Dayton is quite a flourishing business place, and has been the head of canal navigation from Cincinnati north for several years; this internal communication, however, is rapidly extending, and the canal will soon be completed to the Maumee, thus connecting the waters of the Ohio again with those of Lake Erie; and as it passes through a remarkable fertile section of the State, the probability is that it will soon do quite as good a freighting business as the one now connecting Cleveland and Portsmouth. In the hotel at which we stopped at Dayton, there was to me a most agreeable and refined sight. At the head of the dining room the windows were absolutely festooned with beautiful green-house plants, mostly in full bloom. I counted not less than forty-three pots, besides some larger boxes of them. If these could be changed to the bar-rooms for the glitter of whiskey and brandy bottles, huge rolls of segars and tobacco, it would be a great triumph for refined taste, to say nothing of the gain to the health and morals of the community.

From Dayton on, it is a charming rolling country, the hills rising so high at times as almost to be classed among the picturesque. The soil is good and friable, reminding me much of our own Onondaga county, though the rocks here are more generally of the sand stone than lime formation. Butler and Warren are said to be the crack farming counties of Ohio; not that the soil there, excepting the bottoms of the Miami, is as rich and deep as in many other counties of the State; but upon the whole it is perhaps better adapted to a general rotation of crops, and being exceedingly well watered, of a varied surface, a healthy region, mild climate, and originally settled mostly by northern people, who have retained their habits of industry and thrift, and divided into moderate sized farms cultivated by the owners, and adorned with neat houses and barns, it is said to be the most agreeable part of the State for the agriculturist to travel over.

At Lebanon I called upon Mr. Beach, and regretted to find that his grown Berkshires were at Mr. Reed's, some eight miles off. His imported Reading is flourishing there in great and deserved popularity, and has quite as much business in his harem as he can well attend to. His stock is much liked, and his pigs two months old are readily sought for at $50 to $60 per pair.—He has stretched himself out considerably, I understand, in this country, and if any thing, is now thought to be almost *too large*. I am glad to hear such a complaint upon the part of the pork raiser; it shows him that whenever the public desires it, we can produce *big* Berkshires as easily as medium sized ones. A very fine portrait of Reading, as well as a grand young sow of Mr. Beach's stock, Miskwa, adorns the April No. of that capital, spirited little work, the Western Farmer and Gardener. Mr. B. has also quite a number of blood horses.—The Muly mare, upon the whole, pleased me the best among the fillies, she displayed so much stoutness in her frame and structure. Admiral is a beautiful figure of a horse, and won quite a reputation on the turf; and I regret to say that there is not patronage enough in the neighborhood to repay his standing there. He has made two seasons almost entirely at his owner's expense, and is now withdrawn from the public. This ought not to be the case, for a cross from him could not but be a decided improvement on the horse stock of the country, giving it more vigor, spirit, and endurance; and I do not know a finer region for raising good horses than the beautiful rolling lands of Butler, Warren and Hamilton counties. Crosses of the Berkshire abound all along the road, and drovers to the southwest are said to be doing a capital business by purchasing the darkest colored pigs, *trimming their ears* to the true point, and then disposing of them at the rate of $3 per head, as the genuine animal. Well, if people please to buy under such circumstances of those they might know have neither integrity or honor, it is their affair, not mine.

At Dayton, the blossoms of the peach, the cherry and pear began to show themselves, and at Cincinnati all the trees, with many garden shrubs, on the 17th, were in full bloom, and the air was redolent with their fragrance. It is true, in descending the hills and approaching this last named town, one begins to *smell pork*, but let him not, in consequence thereof, turn up his nose *a la Trollope*, and think that there is neither taste, elegance or refinement to be found here; quite the contrary for I do not believe a more beautiful town of the size exists in the United States. Cincinnati stands on a broad platform of the right bank of the Ohio, gradually rising to the base of the surrounding high conical hills from low water mark 108 feet. Its streets cross each other at right angles, are well paved and sufficiently spacious, with generally good substantial brick or stone buildings of three and four stories high. Including the village opposite and above, that are in fact but a part of the town, it contains a population of 60,000 inhabitants, and carries on a large trade with the remotest confines of the west.—It has also extensive manufactories, especially of iron castings and machinery, and rapid as has been its growth, I see nothing to prevent its continuing steadily to increase and maintain its present predominance, of being the largest inland town of the United States.

With a taste deserving the highest commendation, many gentlemen have preserved, right in the heart of the city, the adorned grounds that originally surrounded their houses, adding, in the absence of public parks, much to the rural beauty of the town. Among the most extensive and beautiful of these is Judge Burnet's and Mr. Longworth's. The latter adds a fine garden, and an extensive range of green house, the fragrance from which was almost overpowering to the senses, although its full blooming season had not yet arrived. It is said to be particularly rich in the cactus, and contains a greater variety of this singular and beautiful species of plants than any other conservatory in America, perhaps in the world. Nor in cultivating the foreign flowers and plants has Mr. L. neglected those of his own country, but has stocked his grounds with most every thing indigenous to our country, presenting a more varied and beautiful show than one could have imagined. He has also paid great attention to the grape, and adopting our own natural varieties, has been eminently successful.—He gave me a taste of two kinds of wine made from them.—One I could not have told from Maderia, and the other seemed most capital Rhenish. I do believe that the Ohio Valley will one day be a large exporting wine country, and the returns from cultivating the grape are already profitable; single acres, I have been told, in their produce netted as high as $200 to $300 per acre. The Swiss have not succeded in this business at all, mainly because they cultivate their own foreign grape exclusively, and in their own foreign manner. They allow nothing for difference of soil and climate, and can't be made to believe that our native vines are generally superior. To eminently succeed in this thing, I am confident our own countrymen have got to take it up, and with their knowledge, skill and perseverance, I cannot but think that their efforts will one day be crowned with marked success. It may seem to some that I have dwelt too long on this subject, but when we consider that we are annually importing wine to the amount of millions from countries that will take nothing, comparatively, of us in return, in the present depressed state of our agriculture, it behoves us to see if we cannot turn a small share of our lands to greater profit than producing corn at 10 cts.. and wheat at 30 cts. per bushel.

The Hessian Fly.

MESSRS. GAYLORD & TUCKER—I have not been a subscriber for your valuable paper, till the present year, as your list will show. Thus far, I find it deeply interesting, and well calculated to excite and promote a spirit of inquiry and improvement among agriculturists.

I notice a piece, in the number for this month, (March,) headed "Hessian Fly—A Lady Observer." Honor and praise to the ladies! I have derived from them the far greater portion of my earthly comforts. I feel much gratified at the interest and inquiry, which the discovery of Miss MORRIS, respecting the Hessian fly, has elicited. The great desideratum is the discovery that the ovum, or egg, is deposited in the grains of the wheat before it is harvested; because, knowing the hiding place and fortress of the foe, we can the more surely adopt the means of his destruction. I will, therefore, give you my observations, confirmatory of those of Miss Morris.

More than twenty years ago, while I lived in Leesburg, Va., I adopted the opinion, that the Hessian fly deposited its eggs in the berry or grain of wheat, in its ripening state, and that instinct directed the deposit to the germ or bud, which was to produce the new stalk. The eggs, being deposited in that part of the germ, which adheres to the grain, are enclosed within the first two leaves that spring directly from the germ. They are not often found at the third blade, though this may occur without violation of the general principle, as they may be deposited a little deeper in the germ, or may be moved in the growth of the plant.

I was led to this opinion while walking in my garden between the rows of peas, ripening for seed. The pods had become yellow, but not dry, and opposite to every full pea in the pods, I observed a white circular space, from which the juice had exuded, and in the center a perforation. This was done by the insect, which deposits in the pea the egg that produces the pea bug. And this is the general habit of insects to deposit their ova or eggs, in some soft and moist substance, as cherries, plums, &c. The fact, observed in the peas, led me at once to the opinion that the Hessian fly deposited its eggs in a similar manner in the grains of wheat in their ripening state, before they became hard.

Some time about or in the year 1820 or 21, I published an essay on the Hessian fly, setting forth my opinion, in the Port Folio, edited by Harrison Hall, Esq., Philadelphia. In that essay I recommended a trial of the following remedy, which I have used in a small way, and never found it fail. Soak the seed wheat in lime water, kept milk-warm, till the grain is swollen to the point of almost sprouting; then roll in plaster, after draining till well coated, to prevent injury to the seedsman's hand, and to promote vegetation.

I was led to this recommendation by reflecting that two agents, *heat* and *moisture*, are necessary to quicken or vivify insect's eggs. The eggs being in the grain, the warmth of the water would quicken them, and the lime would so corrode the membrane or coating of the eggs, as to destroy their vitality.

EARLY AND LATE SOWING.—Wheat sown early is often destroyed by the fly in autumn; because there then remains, generally, warm weather enough to quicken the egg and bring it into the "flax-seed" state, and sometimes to the fly state, and then the mischief is done in autumn. In very late sowing, there does not, usually, follow warm weather sufficient to quicken the egg, and it remains protected in the earth till the warm weather of spring, commonly in this climate about the 10th of May, when its progress to maturity shows its ravages at every stage.

In our climate, fifteen miles north of Washington city, the safest time, to avoid both the foregoing risks, is found by experience to be from the 1st to the 10th or 15th of October. The reason of this selection of time is, that in ordinary seasons, there will remain warm weather sufficient to quicken the eggs, but not enough to advance them to an injurious state before the hard frosts commence, which will destroy them easily, after being quickened. The general rule, however, as to the time of sowing, must be regulated by the latitude of the place, so as to avoid the extremes of *early* and *late*, in reference to that latitude. And, after all, the rule and the reasons above assigned for it, will be subject to infringement and exceptions, owing to the difference of the weather in different autumnal seasons.

COLD WINTERS WITH LITTLE SNOW.—Fifty years ago, before the inroads of the Hessian fly, the farmers were delighted to see their fields covered with snow during the winter, as a protection to the growing crops. Not so now. Our best wheat crops follow winters, in which the snows are light, and the ground generally bare or nearly so, and hard frozen, so that little of green appears in the wheat fields, and then they are not troubled by the fly in the spring. I have observed this for thirty years. The reason, I presume, is that the eggs of the fly and other insects, in their unprotected state, are destroyed by the severe frosts; whereas, this effect is prevented when the ground is deeply covered with lasting snows.

LAMLER WHEAT.—This wheat, a species of the smooth white, was recommended to me as *fly-proof*. I cultivated some small lots. I procured some and sowed it about twenty years ago. About the first of May I thought it was failing, the two ground blades having become yellow. They soon dried away. Herein I supposed was its *fly-proof* virtue. The leaves that protected the eggs, dried away before the larvæ were enlarged and thus they perished. Such kinds of wheat may, therefore, be less subject to injury from the fly than those, the ground leaves of which remain longer green, such as the red chaff bearded.

In conclusion, I must say, that Miss Morris deserves the very best husband that your country can afford; and that I would consider myself honored to have the privilege of celebrating the rites, and assisting to demolish the cake.

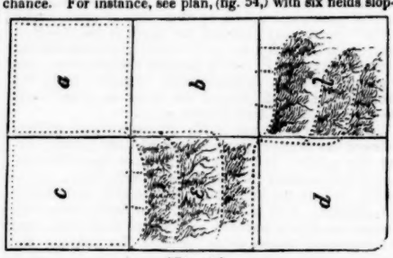
Sincerely yours, JOHN MINES.

N. B. Please ask your correspondents, so to note the place from which they write, that your readers may know their *latitude* and their "*whereabouts*."

Rose Hill, near Rockville, Md., March 18, 1841.

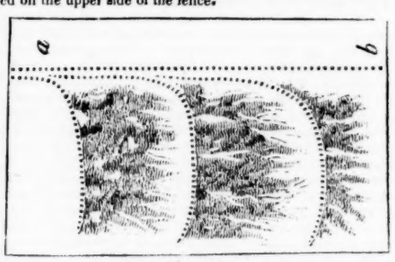
Draining and Irrigation.

MESSRS. GAYLORD & TUCKER—The advantages and disadvantages of draining and irrigation having occupied the attention of the farming community to some extent recently, I am induced to offer a few observations, suggested by my own experience. My method of draining has been decidedly profitable, and can be adopted by others with the like advantage, until the question of the benefit of thorough draining shall have been decided; which is scarcely likely to happen in our day. There are exceptions to all general rules; so with draining, and doubtless much land in the vicinity of cities and small portions of farms throughout the country may be profitably drained. My plan is to irrigate one part of my farm with the surplus water drained from another part. Where a farmer has it in his power to irrigate his meadows or pastures with surface water from roads, barn-yards, swamps, marshes or plowed fields, (especially those bearing Indian corn or root crops,) it will be for his interest to avail himself of every such chance. For instance, see plan, (fig. 54,) with six fields slop-



[*Fig.* 54.]

ing to the north; this year I plow *a*, *b*, *c* and *d*, and mow *e* and *f*—here my plan would be to prevent surface water from running on to any of the plowed fields, and to carry it on to the meadows. To do this, I make a ditch (see dotted lines) round the outside of the field *a*, and if nearly level, I back furrow it north and south into lands twenty-four feet wide, which would drain the water to the north side of the field, from whence the ditch would carry it to the north-east corner, where a furrow will turn it on to meadow *e*. A ditch on the south and east of field *c*, carries the water by another furrow on to the same field. Plow field *b*, east and west, and carry the water on to meadow *e*. To keep the water from field *d*, plow a furrow across the north side of meadow *e*, leading to meadow *f*. Plow field *d*, east and west, and carry the water on to meadow *f*. When other fields are plowed, manage the drains accordingly. The ditches should be in all cases plowed on the upper side of the fence.



[*Fig* 55.]

A brook or swail (see fig. 55) runs from *a to b*; if a swail, it would be likely to have the wash of two or three fields, perhaps the wash of the barn-yard. If the field is meadow or pasture, drain it in the direction of the dotted lines; in this way your water is carried on to the field and evaporated or absorbed. The quantity of hay in the swail will be doubled by draining, and the fields much benefitted, and by this process the individual farmer becomes a benefactor, by causing "two blades of grass to grow where but one grew before." Where it is desired to plow the swail, and the water cannot readily be carried off, under-draining should be resorted to on the lowest ground, or it may be plowed in ridges. If you have a brook instead of a swail, carry the water from that on to the meadow or pasture, as in the case of a swail. In irrigating from brooks, be careful that you can turn the water off or on at pleasure. Water for irrigation is most valuable in the spring, and after rains in summer. Care should be had not to let on too much when the grass is nearly grown, otherwise your grass becomes lodged and gritty. Following the foregoing plan, water may be taken from its original channel of uselessness or worse, and made to enrich and beautify the neighboring fields. It sometimes happens, that after covering a field with manure, and before it is plowed, heavy rains come on and the manure leached into brooks or swails, by which it is lost to the farmer in a great measure; but where a judicious system of ditching is adopted much may be saved to the up-land.

This plan of draining and irrigation is not as well adapted to sandy or gravelly as to clayey or tenacious soils. My plan for plowing land, which is injured by surplus water, is to back furrow into lands twenty-four feet wide on the first and second plowing; third plowings, commence the ridge three feet from the former plowing, plow the dead furrows deep, by which, when you have reached to twelve feet, the whole surface will have been plowed about two feet deep. ELI C. FROST.

Catharine, N. Y., April 1, 1841

Wintering Sheep on Oat Straw and Oats.

MESSRS. EDITORS—I will tell you and your readers one of the ways I have adopted to economise. It is simply keeping sheep through the winter on oats and oat straw. Winter approaching, and perceiving that I had not sufficient hay to keep my sheep (more than 300) on that exclusively, and not willing to sell my stock at a sacrifice, I was obliged to enter upon an untried experiment, of wintering one-fourth on oats and the straw, thrashed. I am happy to say I have succeeded far beyond my expectations.

I have fed to a flock of 105 ewes, (with lamb,) the past winter, one bushel of clean oats per day, and straw three times; and from many years' experience in *sheep husbandry*, I say in all candor and honesty, I never succeeded so well in keeping up fine condition, none have died, and neither have I perceived that any (not in a single instance) *scoured*, which I was fearful would be the case. I have, with some care, drawn up the following estimate of wintering 100 sheep on hay. I think, taken one year with another, it will be found nearly or quite correct. I allow fourteen tons is sufficient to keep 100 sheep through the winter and spring, admitting at once, however, that they may be, and often are, kept on a less quantity—at a tremendous loss sometimes to the grower. If fed fourteen tons, you will perceive that eight acres is necessary, producing one and three-fourths tons per acre. Fine hay I give greatly the preference for sheep; and meadow, that produces more than the above quantity, (1¾ tons,) I do not consider exactly the right kind for sheep.

14 tons of good hay is worth $6 per ton,	$84 00
Expense of cutting eight acres, say	14 00
	$98 00

Now look on the other side of the picture—

Expense of plowing eight acres,	$8 00
Seed for the same, 16 bushels, at 2s., is	4 00
Sowing and dragging,	3 00
Cutting and securing, say	8 00
Threshing,	12 00
Estimating it to produce 40 bushels per acre, is 320 bushels, worth 2s.,	80 00
	$115 00

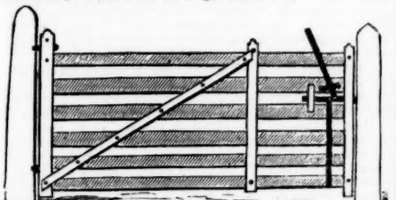
I have fed my sheep one bushel per day, 150 days, which deducted from the estimated yield, would leave a surplus of 170 bushels, at 2s. is $42.50, which, deducted from the whole cost of production, would show the expense of wintering 100 sheep on oats and the straw to be $72.50—showing an actual *saving* of $25 in the expense of wintering one flock of sheep. Brother farmer, is not my plan, based on experience, worth adopting?

C. M.

Ludlowville, April, 1841.

Farm Gate.

MESSRS. EDITORS—Having been a reader of the Cultivator from its commencement, and not having noticed what I should consider a plan of *a complete farm gate*, I here send you the plan of a gate, similar to some fifteen or twenty which I had constructed, and which have been in use for the last ten or twelve years, and still are in good order.



[*Fig. 56*]

The cut above, represents a gate, twelve feet in length, and five feet in height, counting from the lower edge of the lower slat to the upper edge of the upper slat. The slats are six in number, one inch by six inches, and twelve feet in length. The heel piece is three by six inches, and six feet in height. The middle and head pieces are three by three inches, and five and a half feet in height. The braces one inch by three inches, and nine feet in length. The slats ought to be made of good yellow pine, or good white oak, without any sap; the braces, heel piece, middle and head pieces, of white oak. The spring, trigger, bolt and both brackets are made of locust. The heel piece, middle and head pieces, have each one rivet near each end, so as to keep them from splitting. The braces, one being applied to each side of the gate, are fastened on by six rivets passing through the braces and slats, and join the heel and middle pieces by a shoulder, as shown in the cut. Two rivets pass through the two bottom slats and the springs. Two rivets confine each bracket, and one passes through the middle of the upper bracket, the trigger and slat; making in all nineteen rivets. The spaces between the slats are graduated, so as to leave a space of two and a half inches between the two bottom slats, and seven inches between the two upper slats. The whole of the stuff ought to be planed and painted with Venetian red. The hooks and hinges are made of tough iron, not very heavy. The hinges pass through the heel piece, and are secured by taps. The lower hinge is kept from crushing the heel piece, by a plate three inches square, having a hole through it, through which the shaft of the hinge is passed up to the eye, so as to keep the gate from swagging. The upper hook ought to be somewhat longer than the lower; it ought to be nine inches in length, and bearded on two sides, so as to keep it from drawing out. In order to keep the gate from being thrown off the hooks, it will be necessary to have a tap put on one of the hooks. The posts ought to be made of good white oak, or locust; the back post ten feet long, and the front one nine feet. The back post ought not be less than eighteen inches in diameter at the lower end, and should be sunk in the ground three and a half feet; well filled in with stone at the bottom, and another layer near the surface of the ground; and the balance of the hole should be well rammed with clay. The front post will be deep enough, if put into the ground three feet. The posts, before putting them up, should have the bark taken off, and the upper ends cut to a cone. The bolt may be constructed so as to slide along a level leading to a mortise made on the inner side of the front post. Two locust pins inserted into the front post and projecting two inches, will answer for the gate to rest against.

Where the gate is to be used to a field, I should prefer hanging it level; but where it is used to a barn-yard or mouth of a lane, I should give it what we here call the "double swing," so that when it is thrown open, it will remain open without being propped; and when half shut, will fall shut of its own weight.

SOLOMON HENKEL.

New-Market, Shenandoah, Va., March 22, 1841.

To Western Emigrants—No. 5.

THE FIRST TRIP TO MILL—THE EMIGRANT'S FAMILY OUT OF PROVISIONS—A LOG CABIN SCENE.

MESSRS. EDITORS—And you my kind readers, who have read my previous numbers, if you think I am becoming prolix, lay the present one aside. I was led away in my last number from the subject which I was prosing upon in No. 3. I told you of the first night on the prairie, but I have not yet told you of many other nights and sunny days that I have spent here. The month of November, around the head of Lake Michigan, (which is in lat. 41, 38,) is usually a mild pleasant month. Such was the month that followed "the first night on the prairie." This was indeed propitious to the newly arrived emigrants, for there was much to do to prepare for the expected rigors of an approaching northern winter.

There was neither hay nor grain within many a long mile, for man or beast, and to one accustomed to look upon the gloomy side of things, the prospect of making a new settlement under such circumstances would have looked gloomy enough. But an emigrant to the West should not be one of that cast of temper. He should be able to look beyond the many discouraging circumstances attending the beginning of his new mode of life, to the bright prospect of the future. There was but one fleeting moment of gloom resting with me during the first winter. The first month had been spent in the numerous duties of preparation for winter, and the beautiful sunny days of November had given place to cold and snowy December, when it became apparent that the little magazine of provisions must be replenished, and that right speedily. And although "delays are dangerous," yet, waiting better weather, delay was made to that point, that upon calculation proved the stock on hand barely sufficient to supply the five or six days that it would take to make the journey where a supply could be obtained, and return again while there was yet a little left. So a trusty and persevering messenger was dispatched, with due, though little needed caution, to hasten his return. The weather again was mild and pleasant, and our spirits all buoyant and bright as the winter sunshine, as the cheerful cheering notes of the departing teamster's joyous morning song floated away upon the breeze, that swept unobstructed over miles of prairie, now blackened by the annual fires, to a somber hue, and cheerless winter aspect.

Never were such appetites seen before, as those which daily diminished the fast failing stock of provisions of our little family in the wilderness. Before them I kept a cheerful face, but oh, how my heart sunk within me on the evening of the fifth day, as I descended from a tall tree which I had climbed to try to discover the expected team. For I easily perceived that the weather had been such as to ice over the unbridged streams, though I feared not sufficient to pass over a wagon. On this evening, too, I was still further pained by the arrival of some hungry wanderers, to whom hospitality could not be denied.

On the sixth day, the only neighbor within a dozen miles, came to *borrow a little meal*. He looked upon the bottom of the empty barrel and turned homeward with his empty bag. The knife had scraped the last bone for breakfast, and the next resource was a small bag of wheat bran, which made very palatable batter (not better) cakes, though they would have been better, but that the lard was gone, and butter was, in those days, among the unknown things. Bran cakes and cranberries, sweetened with honey, then were sweet diet. Although the owner of a gun that rarely failed to perform good service, it seemed that every living thing in the shape of game had hid up in winter quarters. 'Tis true, that I suffered a degree of nervousness, that might have rendered my hand too unsteady to endanger the life of game, if it had come in the way; not that I heard one word of reproving or fear, nor that there was any immediate danger of actual starvation; yet the thought was not a pleasant one, to think I had brought a wife and children into a wilderness to suffer, even through fear of want.

On the sixth, seventh, eighth and ninth days, anxious and watchful eyes scanned the prairie by day, and tended beacon fires by night, for this precaution was necessary, as there was nothing to guide the expected teamster home, should he undertake the perilous passage of the prairie just at night fall. It was about midnight of the last day, and I had tired of watching, and had laid down, but not to sleep. The question of "what is to be done?" was working up some horrid visions before me, when my ear, which had grown remarkable quick of late, caught a faint sound like steps upon the frozen ground. Sentinel upon his post never started quicker than I. The sounds grew more and more perceptible, but there was nothing like the rumbling of wheels. For the first time, then, did the deep seated anxiety of the good wife and mother show itself. Hope was fast sinking, when the well-known voice of the ever cheerful teamster was borne along the midnight air. How little do we know how to appreciate trifles, until placed in trying situations. What joyful sounds! But the joy was soon damped, as it became manifest that he drove a team without a wagon. Where was that? was the first question. "Fast in the river, a few miles back on the prairie." "Do you know we have nothing in the house for your suppper?" "I expected so, and so I brought along a barful; here is both flour and meat."

Reader, can you imagine yourself for one moment in my situation? Can you realize that the happiness of that moment was sufficient to pay for many weary, watchful days of anxiety? No, you cannot realize that, until experience teaches you. Happiness is only realized by contrast with misery. And it is because the emigrant's life is full of such exciting scenes, and because the days of pleasure are long remembered, when those of pain are buried in oblivion, that induces thousands annually to add themselves to that irresistible wave of western emigration, that is rolling onward to the Pacific Ocean.

The happiness of the teamster too, was such as he will never forget. For he had endured a night of actual peril. When the ice gave way under the wagon, it became necessary for him to plunge into the water to extricate the team, and when he reached the lone log cabin, his outer garments were frozen stiff, and in a short time he would have become an immoveable mass of ice, and perhaps have sunk to his final rest upon the bleak prairie.

Those who have seen a real log cabin fire of hickory logs, may picture to themselves a scene in the first cabin of the first settler, in the first winter on the prairie; and those who have never seen such a scene of real comfort, must imagine as best they can, a picture of such a scene as was realized in that cabin on the night of the return from "the first trip to mill."

Such scenes of excitement, of pain and pleasure, often occur to the western emigrant. I have in memory's store many that may or may not yet be told; but for the present, I will leave those who have perused this, with the sincere wish that they may ever enjoy their fast fleeting moments of life in a splendid mansion, with as great a zest, as a portion of life has been enjoyed in a log cabin, by their old friend,

Lake C. H., Ia., February 1, 1841 SOLON ROBINSON

Management of Manures, &c.

EDITORS OF THE CULTIVATOR—Having been a constant reader of the Cultivator for some years, I have become convinced that we must improve by careful observation, and also by adding the experience of others to our own; and if practical farmers were more willing to furnish the public with their experience in their various modes of tillage; of collecting, preserving and disposing of their manure, &c., much information might be gained. I am, therefore, willing to state some of my experiments, together with the results.

For twenty years past, I have been in the practice of rotting my manure in the yard, and in order to effect this, would turn it twice in the course of the summer, and in the fall apply it to ground previously prepared for wheat. The summer of 1838, I varied from my common practice, by taking out my manure about the 1st of 6th month, spread it broad cast on a field of thin land, which had previously brought little beside strawberries and five-finger vines; the manure was immediately turned under. Six or eight weeks after, it received a second plowing, and early in the 9th month a third plowing, and sowed it with wheat the 17th of said month, one and three-fourths bushels per acre; timothy seed four quarts per acre, and clover seed in the spring following, six pounds per acre. The result was a good crop of wheat; since which, this field has produced as great crops of grass as any field on my farm; and to the admiration of my neighbors. I think the manure worth one-third more than when rotted in the yard.

In 1837, I took out my manure on the 1st of 6th month, spread it broad cast on a piece of land containing three and a half acres, of a description similar to the above, thirty-five loads to the acre, coarse yard manure, plowed it three times as before, sowed it with red chaff bearded wheat, 28th of 9th month, one and three-fourths bushels per acre; grass seed as above; from which I harvested 105 bushels, or thirty bushels to the acre. I judged one-eighth of an acre fell down and was nearly lost. Westchester county is not a wheat growing county—average yield not more than from twelve to fifteen bushels per acre, and frequently much less. I have used no fallow crops in the above experiments, as the land was thin, and I wished to improve it as much as possible.

In 1839, I put my yard manure on a piece of rather cold meadow land early in 5th month; turned it under and sowed it with oats. They were only middling; after which plowed twice, sowed wheat, with grass seed. Wheat good, and prospect for grass very fine.

Many of our Westchester farmers are in the practice of feeding their cattle from stacks on their fields; the dung is left by the side of fences, or on some rich corner of the field, the least exposed to the chilling blasts, where it is scorched with the sun and dried with the wind, until it is worth but little.

I have, for a few years past, raised the Italian Spring Wheat with tolerable success; average yield about fifteen bushels per acre. It has some advantages over winter wheat; one is, it does not need land as strong as to grow winter wheat. I sow it about the 1st of April.

I wish your opinion, as well as the opinion of some of your numerous correspondents, respecting keeping cattle in stables through the winter; I anticipate building a barn with stables sufficient to hold my entire stock of cattle. My plan of feeding is to cut my hay and straw and mix them together in such proportions, as I find my cattle will do well on; in feeding in this manner, there will be but little wasted. Their drink to be furnished from a pump in the barn, so that they need not go out of their stables during the winter.

My principal object is to keep more cattle with the same feed, and thereby increase the quantity of manure. I am aware that it will cause extra labor to cut their feed, and take care of them in the manner prescribed above, and wish information to know, whether cattle will be likely to do well, kept up through the winter; and whether it will be likely to pay expenses. Information upon the above subject will be thankfully received by,

S. WOOD

Cherryhill Farm, Westchester co., N. Y., 3d mo., 1841.

Use of Calcined Gypsum.

MESSRS. GAYLORD & TUCKER—I trouble you with this communication, merely to say, that I have wished that the simple suggestion might be made to your numerous readers, of the *probable* advantage to the cultivator of CALCINING, or burning, GYPSUM before using.

We know that a certain amount of pure sand, mixed with stiff clay, will greatly improve such soil for arable purposes, as much, probably, as any single ingredient which could be added, scarcely excepting any kind of manure. On the same principle, a certain amount of LIMESTONE *reduced to powder* of suitable fineness, would have a similar effect; but who thinks of using limestone in this way?

My belief is, that if gypsum, before cast upon the ground, was subjected to the action of *fire as limestone is*, that is, *calcined*, it would then be found altogether a more energetic article for promoting vegetable growth; indeed, I think as much better as the limestone is for burning. The expense of burning is trifling. It may be done (having been previously ground) in a cast-iron pot of almost any kind. I should think "Motts'" new portable cast-iron kettle and furnance would be excellent.

Hartford, Conn., 1841. L. B.

Management of Bees—No. 2.

MESSRS. EDITORS—The series of essays I proposed to publish in your valuable paper some time since, on the management of Bees, will be predicated principally on four classes of beehives, which are divided into three distinct sorts each, making twelve hives in all. The first sort in each class will be a simple swarmer. The second sort in each class will be a perfect swarmer; and the third sort in each class will be the perfect bee-hive, and non-swarmer. The two first classes will be chamber hives. The third class will be box hives, with a chamber and thermometrical chamber in the third sort, or perfect hive; and the fourth class will be a capped hive, with collateral and thermometrical chamber in the third sort, which is called a perfect bee hive. These hives are all managed on the life-preserving principle. Swarms to form new colonies, are divided off only in the perfect hive of each class. I intended to have had the whole before the public at an earlier date than this; but the preparations have been laborious and slow. The specifications are now all made, the drawings all completed, and I hope to have the cuts ready for the next No. of the Cultivator. These hives will be cheap or expensive, according to fancy, varying from fifty cents to fifty or even a hundred dollars.

I ought here to answer the inquiry made by Mr. Quimby, page 76, current volume, concerning dead chrysalis found among the combs in a hive of bees. *Answer*—First, the cause: It is too much ventilation in the spring months. The cold air chills the young broods. *Remedy*—Close up the bottom board, stop all ventilators, and contract the hives' mouth so as to afford no more air than is necessary for the passage of the bees at work, until the weather is hot. These close at every turn of chilly weather during the breeding season. Ventilate in hot weather only during the breeding season; if this is done, I will warrant the combs to be always kept clear from dead and putrified chrysalis. Objections to this practice removed—see page 70, current vol. of Cultivator JOHN M. WEEKS.

Salisbury, Vt., May, 1841

Durham Stock as Milkers.

UNDER this title an article, or speech, is going the rounds of our agricultural and political papers, purporting to be from Rev. HENRY COLMAN, which is pregnant with so much error, and, coming from that high and responsible source, of such mischievous tendency, as I believe it, to the welfare of our dairymen and stock breeders, that, although seldom appearing before the reading public, I feel bound at the threshold of its circulation, to enter, as the lawyers would say, *my caveat* against it.

That there may be no misunderstanding in the matter, let me at once remark, that no one can have a higher respect than myself for the exalted character of Mr. Colman, in all that constitutes the true gentleman and the honest man; and that no individual within my knowledge is so capable to accomplish the responsible and important duties of Agricultural Commissioner of the proud Commonwealth of Massachusetts as himself. I have known him intimately for years, and a knowledge of his worth and of the high authority of his declarations compels me, humble as are my pretensions, to assume an attitude in opposition to his remarks.

The value of the neat cattle in the State of New-York, according to the returns of the late census for 1840, is not less than $15,000,000; and probably, exceeding that amount. If to these be added those of New-England, which are at least of equal value, it will present an aggregate of thirty millions of dollars, invested in that branch of agriculture alone. Now, if by adopting an improved breed of these animals, the same number, by exhibiting in their improved forms a superior excellence, and an additional value of 33½ per cent, which is a very moderate advance in the improved races, it would swell this already vast capital into the round sum of $40,000,000! This fact will at once show that the subject is of immense consequence to our farmers at large, and of no trifling moment to all in its details.

But for the purpose of illustrating my remarks, and even at the hazard of adding to the prolixity of this paper, I will ask you to insert at once the article in question, requesting you also to number each distinct paragraph of Mr. Colman's essay, for more convenient reference:

[*From the Yankee Farmer.*]

"As we had not room last week to report all the doings at the Agricultural Meeting, and as the subject of Durham stock, as milkers, compared with our native cows, is of high importance to farmers, we now copy Mr. Colman's remarks in full, from his own report in the Courier:

1. "Mr. Colman had not intended to enter upon this discussion, but he felt it due to his official relation to the farmers of Massachusetts, to say that he had had the pleasure of seeing the improved Durham stock of the Messrs. Lathrops, of South Hadley, and he thought them eminently beautiful, and evincing great skill and care in their management, on the part of those gentlemen. He had seen many of the imported animals throughout the country; and one of the herds imported for the Ohio Company, which he saw on their way, was truly splendid, and in beauty and perfection of form, far surpassed any thing which he had ever witnessed.

2. "He must, however, in justice, add, that he yet wanted the proof of the Durham Short Horns being the best stock for our dairies. Seven of the race which he had owned, some full and others half-blood, had been inferior as milkers. The quantity of milk given by many of the animals which he had seen, was remarkable; the quality, in general, inferior; though he had found some exceptions, which, he believed, were accidental.

3. "The Cheshire farmers, who were as distinguished as any in the country or in any country for the produce of their cheese dairies, preferred the native stock. From a dairy of eighteen cows, an average of 633 pounds new milk cheese to a cow, in a year, had been obtained. He had challenged in writing and conversation the owners of the Short Horns in the country to prove, by actual experiment, the dairy properties of this stock; and he would furnish a list of a hundred cows of our native stock, which had made from twelve to fourteen pounds of butter per week, through the season. He was far from having any prejudices against the improved Durhams. He was an enthusiastic admirer of them; but he wanted their dairy properties tested by actual experiment.

4. "A very distinguished English farmer, Mr. Shirreff, who had made the tour of this country, expressed his regret at their introduction, and pronounced them in his book the poorest dairy stock in England. We could not be said to have formed any distinct race among ourselves, excepting the trials made by Mr. Jacques, and a long continued improvement carried on in reference to milch cows, in another part of the state, upon which he had reported. Much, undoubtedly, yet remains to be done, but nothing in this respect can be effected but by skill, extreme accuracy of observation, and long perseverance.

5. "He thought the Durhams not well adapted to the scanty pastures and negligent habits of many of our farmers. All high bred animals require particular care and the most liberal feed. Two of the finest oxen ever raised in the country were of this stock. One, it is believed, a full blood from Greenland, N. H., weighing over 3,400 pounds, live weight; and one and a half-blood, raised in Claremont, N. H., and sent year before last to England, for exhibition. His live weight was said to be 3,700 pounds; and he was pronounced in England, by the best judges of stock, as unrivaled for weight and thrift, and eminently well formed.

6. "The best breeds would soon run out if negligently or severely treated. This race were undoubtedly well suited to the rich pastures and abundant products of the west of Kentucky and Ohio. There they would flourish. What might be done for our own stock by more liberal keeping, was yet to be seen. He had known a calf from a native cow, at four months old, to weigh nearly 400 pounds; and another, at five months old, to weigh 600 pounds. If the improved Durham stock should prove the best for us, and he kept his mind on this subject open to conviction, we could at once avail ourselves of the distinguished improvements of half a century's skill and toil and expense, so liberally bestowed in England. At any rate, the improvements which they had accomplished in England, so obvious and impressive to the most careless observer, read a most important lesson to us, and showed what might be done by skill and care, by judicious selection, by steady perseverance in a regular system, and by liberal keeping; and presented, at the same time, the most powerful motives to exertion and enterprise in a branch of husbandry, acknowledged by all to be of the first importance."

Now, in reference to paragraph No. 1 of Mr. Colman, I have never seen the herd of Messrs. Lathrop, of South Hadley; but if they are what Mr. C. represents, they must be beautiful and valuable animals, and a great acquisition to their neighborhood; although I exceedingly regret that he did not give the opinions of those gentlemen as to their value and excellence in the Connecticut Valley, and the results of their experience regarding them. A detail of their observations would have been at least more satisfactory than a summary condemnation without a hearing.

Mr. Colman and myself visited the Ohio Company's herd, which he mentions, together in company at Buffalo in 1835, as they were passing through from the sea-board to Ohio, on their passage out. They were in high condition, as few or none of the cows were then in milk, and we had no opportunity to judge of their capabilities for the pail; although I have since learned that several of the cows were great and rich milkers. It must be understood, however, that many of the English breeders of high bred Short Horns breed only for sale and the shambles, and do not cultivate the milking qualities of their cattle. This is almost universally the case in Ohio, Kentucky, and the Western States, where the dairy forms no part of the farming business, and stock is reared mostly for beef; but from the universal tendency of the *true* Short Horns to excel in milking properties, when appropriated to that purpose, I can have no doubt they would show as advantageously over the pail as in the stall. When it is considered also, that owing to their scarcity and high value in America, all the females are employed in rearing their calves, and the bulls, instead of being converted into stores for the shambles, are preserved as stock getters, it is evident that comparatively but few examples can be adduced of their real superiority over the common stock of our country as milkers. Still, a sufficient number of specimens have been shown, both in milk and beef, to demonstrate that in each of these qualities the improved Short Horns have excelled all that has yet been produced of our native American stock.

In paragraph No. 2, Mr. C. remarks, that he *wants proof* of the milking qualities of the Short Horns. His own, seven in number, proved inferior milkers, although he admits that several of them, either of his own or which he had seen, were large milkers; but he believes these, exceptions to the general rule. That his own cows proved bad milkers, proves nothing. What was their blood? Were they of *true* and *improved* Short Horn descent? No data is here given for us to judge of their properties in this particular, and we are forced to pass on to

Paragraph No. 3. The Cheshire and many other dairy farmers have long had an excellent stock of selected native cows, which have been propagated with particular regard to their milking properties for many generations. Mr. Colman has traversed the whole State of Massachusetts several times, and out of the whole number of cows that he has seen among many thousands, he presents a list of one hundred of the native stock which had made from twelve to fourteen pounds of butter per week. He has also challenged, both in writing and conversation, the owners of Short Horns to prove their dairy qualities.

I doubt whether one hundred *thorough bred* Short Horn cows can be conveniently produced at all in the whole States of New-York and Massachusetts, so few are there in comparison with the common stock of the country. Nor do I believe five times that number of grade cows of half blood and upwards, can be easily found in either State; but I will venture the assertion, that where such cattle do exist, no matter what their parentage may be on the *native* side, if they were directly bred from *improved* Short Horn bulls, four out of every five of them have proved superior milkers; and at least twenty per cent better in the aggregate than the *ordinary* cows around them. And I will also assert, that of the whole number of *thorough bred* cows in our country, nine out of ten are excellent, if not superior milkers, and twenty-five per cent above the *average* native cows. To illustrate this matter, as I have bred a large number of improved Herd Book animals of the highest blood, within the last six years, as well as many grade cattle from the native, Devon, and other breeds, I will state the results of my own experience, and also the opinions of sundry other breeders, with such facts as a hasty reference will permit.

In 1835, I bred ten or twelve half-blood heifers from three Devon, and several common cows of inferior quality and appearance. They were sired by my Short Horn bull Favorite, bred near Boston, Mass., whose pedigree will be found at No. 2,009, 3d vol. Conte's Herd Book. These heifers proved, without an exception, good milkers; much above the average, both for quality and quantity. In 1836, 7 and 8, I bred several one-half and three-fourth blood heifers, also from Devons and others, which, although many of them were sold, have, so far as I have heard from them, proved superior milkers. A part of these were sired by my Short Horn bull Devonshire, No. 966, 2d vol. Conte's Herd Book. I also had, during the years from 1834 to near the close of 1839, a herd of full bred improved Short Horns, varying from four to ten milking cows, of which all, with one exception, (and that cow suffered an injury in her udder when young,) were *first rate* milkers. One cow gave often thirty quarts of milk per day of good quality. Several of them gave over twenty quarts daily in summer feed, and not one of them gave *poor* milk, or, as the term is, milked hard. They were individually easy, pleasant milkers, with beautiful silky udders, and handsome taper teats, and were, taken together, much beyond the average run of native cows as milkers. I have now a Durham cow that has made her twelve pounds of butter per week, and of four full-bloods now in milk, every one is a superior milker. I have also five or six half-bloods, all of which are above the average of our native cows, by twenty per cent in their milking properties.

To corroborate my experience, I need only mention the evidence of such gentlemen as John Hare Powell, of Philadelphia, who asserted to my father, that one of his full-blooded Short Horn cows had made twenty-two pounds of butter per week for several weeks in succession; Gov. Lincoln, and Messrs. Wells, Derby, and Dearborn, of Massachusetts, who have been the owners of several grade and thorough bred cows; Francis Rotch, Esq. of Butternuts, in this State, who has repeatedly testified to the superiority of *his* Short Horns as milkers, and to his entire experience, probably equal, if not superior, to that of any other gentleman in America, of the superiority of the Short Horns in their purity and in their grades, as milkers. I need not add the names of many other individuals who have repeatedly testified to these facts, as a reference to our agricultural papers for the last five years will corroborate all that I remark. And last of all, I will assert that Colonel Jacques' fancifully ycleped "Creampot" breed of milkers, and which I saw in company with Mr. Colman himself, are simply a cross of a thorough bred Short Horn bull with a native cow, then at Col. Jacques' farm, of good size and appearance, of a deep red color, and with an apparent dash of Devon blood in her veins. His bull that he then used was nearly or quite a thorough bred Short Horn, and all his heifers were high in that blood. This same stock of cattle, Mr. C. has himself highly recommended in one of his agricultural reports, and we were together living witnesses of the surpassing richness of the milk and cream of these beautiful cows. With a few selected facts, I will close this testimony:

In 3d vol. Cultivator, page 191. Francis Bloodgood's imported cow (she was a Durham) gave, when her calf was two weeks old, thirty-three and a half quarts of milk per day. Her feed was one and a half bushels of brewer's grains per day, with hay.

In vol. 7, same work, page 132. Mr. Gower's Short Horn cow Dairymaid, for seven days gave an average of thirty-three and a half quarts per day.

In New Genesee Farmer, vol. 1, page 143. Samuel Canby's Short Horn cow, Blossom, yielded for seven days over thirty-five quarts per day, which produced thirteen and a quarter pounds good butter.

At page 149, same vol. John Weterhull's Short Horn cow, four years old, gave from twenty-six to thirty and a half quarts of milk per day, and in one week produced eleven and a half pounds butter, and in another week fifteen pounds.

In a Philadelphia paper of 1839. "Col. Wolbert's cow Isabella, a pure Short Horn, gave, during seven days, 194 quarts, or near twenty-eight quarts per day, which produced fourteen and three-fourths pounds butter of the finest quality." So much for the assertion that "Durham cows are not good milkers."

In paragraph 4, Mr. Colman introduces us to the distinguished English farmer, Mr. Shirreff, who has made the tour of this country. If this same Mr. Shirreff, who by the way I never heard of before, be as profound in his remarks upon our country, its inhabitants and their pursuits, as the herd of English travelers who have hitherto trundled rapidly over it for the purpose, as it would seem, of writing libelous books and holding us up to the ridicule of Englishmen at home, his opinion is little to be regarded. His knowledge of the progress of Short Horns in his own country may be well estimated, when he remarks "that they are the poorest dairy stock in England." To this remark I need only observe, that nine out of ten of the intelligent English farmers who emigrate to this country, and all British publications on the subject, assert precisely the contrary; for the high grade, and often the thorough bred Short Horns, have been for many years past taking the place of other breeds for dairy and milking purposes in the grazing counties, and near the large towns and cities. That *he* should regret the introduction of any thing tending to advance our agriculture, and our wealth, is altogether natural in an English book-making tourist. I am only surprised that a gentleman of Mr. Colman's shrewdness should be thus easily deceived. As to the "*distinct* race of American cattle" to be yet formed, the end of all this is to be seen in the continual efforts at blending incongruities by those experimenters who strive, without an accurate knowledge of their subject, to produce what is already better made up to their hands in the improved breeds now extant. Such experiments, as they live and learn, have been always abandoned as impracticable and visionary. There is, nor can be, no such thing as a "distinct American breed," made up as all our cattle are from selections from all parts of Europe; nor, if our agriculture is to be, as we hope, progressive in its excellence, is it desirable. Our cattle should improve with our general agriculture. The last sentence of Mr. C.'s remark is very just, and concedes, as we view it, the *gist* of what we commend.

In paragraph 5, Mr. C. gives us the only good reason why Durhams should not become the stock of New-England, to wit: the poverty of its soil, and the negligence of many of the people! Truly a very broad admission, hardly just, indeed, to the snug farmers of New-England, and not at all within the the desideratum for which the advocates of Short Horns contend:—improved husbandry, improved care, and improved stock. If, upon lands, a thousand acres of which will scarcely graze a goose, and from which the very vermin instinctively flee to escape starvation, the beautiful Short Horns are to be doomed to pine, without care, and without sympathy, I at once admit that the less of them the better. Nor do the miserable animals of the native breeds even, which are doomed to a wretched existence on those "scanty pastures," exhibit any signs of thrift as they daily suffer from the "negligent habits of their keepers." True, a long course of neglect and starvation endured by their ancestors, and perpetuated for many generations anterior to their own existence, may render their wretchedness more tolerable than it would that of a better animal; but what advocate of any sort of improvement is content to bind himself to such hopeless sterility? Did we desire a race of animals that would *starve* the best, we could at once make an importation from the Shetland Islands, and establish a *Shetlo*-"American breed" that would bid defiance to neglect and poverty, and flourish amid both frost and desolation!

But this proposition is not within the category of *our system*. We hold, that if land be worth cultivation at all, it should be at least in a reasonable state of fertility. It should yield in any event a tolerable share of its various products under good and kindly attention with which to feed well the stock of the farm. If cows are not to be decently fed, by no means keep the Durhams, or any other valuable breed. But if it be intended to give "value received," to feed well, and pay attention to your stock, and there is no other way to make any kind of stock profitable, then let the breed be as good as possible, and of as high a grade in blood as *the nature of your soil and the climate will permit*. The admissions made before the close of this paragraph, of the enormous weights of the Durham ox with good keeping, admit to the fullest extent all that we claim, when abundance of feed is given to the animal.

In the 6th and last paragraph, Mr. C. doubts whether the Durhams are, after all, not the best stock for us to have, and candidly admits that his mind is yet open to conviction. Now this, after making the round assertions and denials that are above exhibited, is not exactly what we should expect from one of his observation and astuteness. It is indeed too much in the vein of the old adage: "Hang him first, and try him afterwards." In this last paragraph, all is admitted that the advocates of the Short Horns desire. We have never asserted that they would produce great quantities of beef, or of milk, without sufficient food; nor would they thrive under continual ill treatment, neglect and abuse; nor, indeed, will they bear *so much* starvation and ill treatment as some of our native cattle; but we do fearlessly assert that either thorough bred or grade Short Horns will produce more beef, and more milk, each in their own proper time, with the *same quantities* of grass, hay, or other proper feed, than any breed of cattle ever introduced into this country; and so have they thus far done in England.

My own cattle have never been highly kept. On the con-

trary, owing to my farm being at some few miles distance from my residence, and therefore not having my daily attention, my herd always received but ordinary care, and sometimes. I regret to say, not even that. But I do say, that so far as my experience has proved, they have, from the highest bred Herd Book heifer, down to the lowest grade, (never less than half blood,) been as healthy and as hardy as the common stock of the country, kept side by side with them. The opinion, therefore, that Durhams are to be rejected for want of hardihood, or constitution, is but a prejudice that deserves to be exploded.

Still I am no enthusiast in this matter. I would not recommend every farmer to introduce into his farm the Durham cow. On the contrary, on very thin and light soils, I would not introduce them; nor any thing else that ever lived on a luxuriant one. But I do say, on lands natural to grass, which afford a fair yield of pasture and of hay, where either the dairy or the fatting of beef, or even the rearing of cattle for sale, be the object, judging from my own experience, and corroborated by that of others who have tried a single cross upon our native, or *any other breed* of cattle, no matter what, even up to high grades, the Durhams are altogether the most desirable, both for appearance and for profit; with the exception, perhaps, of the Devonshire, if the climate be very rigid; and they are no milkers. Were I a dairyman, and desired to grow up a race of the best and most profitable milkers, I would select the best native cows within my reach, then obtain a thorough bred Short Horn bull of a good milking family, and raise my heifers to as high grades as in their natural course would be produced, always using a *thorough bred* bull, for in no other way can the excellence and the true characteristics of the race be perpetuated. Did I, however, admit of any other foreign admixture, it should be a cross of the Devon to give additional snugness to the form; and then but a single *cross*, for more than that would degrade the milking qualities of the herd. These animals, bred as they would be from native cows, would inherit their constitutions and habits, and become identified, as much as the most ordinary stock, with our soils and our habits of keeping. In this way should we at once gain all that we desire, without sudden or prejudicial change.

In 1835, my father imported a most beautiful and valuable cow from England, one of the finest animals and best milkers I ever knew; a very hardy, thrifty, and easily kept animal. She brought us three very superior bull calves, all from Short Horns. They were like herself, of peculiar conformation and character, being the most compact in their figures, possessing more weight in a given compass than any animals I ever saw. In the fall of 1839, the cow, and her then sucking bull calf, were sold to Norman C. Baldwin, Esq. of Cleveland, Ohio, for $800; her two year old bull calf, "Red Jacket," to Mr. Sullivant, of Columbus, Ohio, for $400; and her yearling bull calf, "Sam. Patch," to J. H. Hepburn, Esq. of Jersey Shore, Lycoming co., Pa., for $200. Had I at that time known the exceeding value of that family of Short Horns, I should certainly have reserved one of them. My bulls have proved in the highest degree valuable as stock getters, stamping their calves in the first cross with deep characteristics of their own blood, and no doubt, laying the foundation of a race of milkers that will yet be famous in their respective localities. They are estimated as they should be, almost beyond price. I name these particular animals, because they develop in all points of hardihood, endurance and kindly feeding, the valuable characteristics we desire in our farming stock, and fully corroborate all that I have remarked of rearing up a *native* stock from judicious crosses of pure Short Horn bulls.

Many years ago, the agent of the Holland Land Company, Mr. Otto, purchased a thorough bred Short Horn bull from Mr. Powell, of Philadelphia, for the benefit of the settlers of the company lands in the counties of Genesee, Cattaraugus, and Chautauque, comprising some of the best grazing and dairy counties of the State. As the services of the bull were obtained for little or nothing, and as he was kept in successive seasons in each of the counties above named, a general sprinkling of his stock was soon scattered throughout those regions, and some as high as three-quarter bred animals were raised from his progeny. The bull lived many years, and proved an excellent stock getter. Many of the cows now ranging about the streets and commons of Buffalo and Black Rock, which have been brought in and sold from these counties, are of this stock, and are distinguished for their superior appearance, and so far as my inquiries have extended, they are of the finest quality as milkers; and yet none but those who are conversant with the Durham blood know that they are any thing but common cows. These cows are celebrated among many of our dairy farmers for milkers; and numerous fine and extraordinary fat oxen that have been slaughtered at Buffalo from the surrounding country, were descendants of the "Otto Bull," either of the first or second generation.

I have now done with the speech of Mr. Colman, which, for his own sake, and the welfare of our agriculture, I regret he had not more maturely considered. Yet, if he be still sanguine in his confidence of the superiority of the Massachusetts "native stock" as milkers, could the thing be made practicable, I would gladly make a trial of merit by actual test. I would propose that Mr. C. or his friends produce ten or twenty cows, which should be a *fair average* of the native stock, without admixture of foreign blood; against which, I would produce a like number of grade, or thorough bred Short Horns, of *average* quality, or taking them as they rise, in any fair herd. The time of their calving should be noted, and the cows should be of nearly corresponding ages—the trial should commence on the first of June, and continue one month; the cows all to be kept in one field, or in as good grass, and on pasture only, as each party should please, if not convenient to bring them together. The quantity of milk should be accurately weighed, and the produce, either of butter or cheese, duly registered. When the trial should be fully made, the winning party to be entitled to the whole herd, with the product, after paying expenses. If the advantage should be on the side of the native owners in value, as it probably would, each animal should be appraised, and a sufficient sum to make up the difference should be deposited to render the premiums thus submitted of equal value. This would test the whole question, and give it sufficient of interest to engage in the trial with spirit. The season is, perhaps, now too far advanced to make the trial this year; but if this proposition be accepted, I would enlarge it, and name the first day of November next, for selecting the animals on both sides; they should be then placed together on one farm, and both subjected to the same treatment through the winter, and kept together till the trial was thoroughly made, which, if either party preferred, might extend through the next season, or until the first day of October following.

If it be objected, that this proposition will incur too much expense, or inconvenience, I will at once propose that Oneida county, in this State, shall be the place of trial; and that myself, or my friends, the advocates of the Short Horns, will furnish a farm for the operations, the fitness of which shall be assented to by the other party. The importance of an accurate knowledge on this subject is a sufficient object for such a trial, and it is perhaps the only method of testing this mooted question fairly. It will be readily seen, therefore, that this proposition arises in no spirit of banter, or gambling, but in that of an earnest desire to settle an important and doubtful point, of great interest to our agriculture generally.

I may, at a future time, pursue this subject further, but have for the present trespassed sufficiently upon your patience.

Very truly yours, LEWIS F. ALLEN.

Black Rock, April 10, 1841.

Hawthorn Hedges of England.

MESSRS. EDITORS—There appears to be considerable desire to introduce into our meadows and fields, that most beautiful of all fences, the Hawthorn hedge. But the prevailing opinion, that it will not thrive here, seems to retard its introduction; the severity of the winter, and dryness of summer, are both urged as causes of its failure.

In England the thorn is considered to be one of their most hardy plants; and it makes a fence which endures for ages. It grows and preserves its beauty on hills which are almost bare of soil, and are, consequently, liable to be parched with the summer's sun, and are also exposed to the severities of winter; it bears the extremes of seasons, and difference of situations, much better than several other English plants which flourish here; hence it is, at least, reasonable to suppose that its failure must arise from some other cause than that of change of climate. Its proper cultivation may not be well enough understood; or, some little alteration may be required to adapt its cultivation to the difference of climate; such, for instance, as trenching *very deep* where the plants are to stand, which would have a greater tendency to preserve them from the injurious effects of the extreme heat and dryness in summer.

The general mode of cultivation, in England, is as follows: The plants are those of the white thorn. This thorn will, if left to grow singly, attain the bulk and height of an apple tree. It bears white flowers in great abundance, of a very fragrant smell, which are succeeded by a little egg-shaped berry, which, when it is ripe in the fall, is of a red color. Within the red pulp is a small stone; and this stone being put in the ground produces a plant or tree, in the same manner that a cherry-stone does. The red berries are called *haws*; whence this thorn is sometimes called the hawthorn. The leaf is precisely like the gooseberry leaf, only smaller; the branches are everywhere armed with *sharp thorns*, and the wood has a fine grain, and is very flexible and very tough.

The berries are ripe in November. They are beaten from the trees, and cleared from leaves and bits of wood; then they are mixed with sand, or earth, four bushels of sand or earth to a bushel of haws, and kept in a cellar, or other cool place; and, soon as the frost is out of the ground in spring, they are sown as thick as peas, in drills one foot apart; here they come up and stand till the next year, when they are taken from that situation, assorted, the strong from the weak ones, and planted very thick in rows one foot apart in a nursery, where they stand another year; then they are ready to be planted to become a hedge. In England, there are two ways of planting a hedge as to position of ground. One on a *bank*, with a ditch on the side; the other on the level ground.

The soil is prepared by plowing twelve or fourteen inches deep; or, which is better, by trenching two feet deep and making the earth very fine. The plants are selected, from the nursery, as near as possible of *equal size*, else some get the start of others, subdue them, and keep them down, and this makes an uneven hedge, with weak parts in it. If the plants be two years old, have been transplanted, and are at the bottom as big as *a large goose quill*, they are every thing that is required.

The roots of the plants are pruned to within four inches of the part that was at the top of the ground, or, in other words, the root is left but four inches long, and all the fibres are cut clean away, or they would die and do harm if left.

The ground and the plants being thus prepared, a straight cut or drill is made about six or eight inches deep, and the plants are put in, but not deeper than they stood before taken from the nursery. The distance between each plant is six or eight inches; some people prefer them twelve inches apart, and plant another line drawn six inches from the first, and put in the plants, not to stand opposite those in the first row, but opposite the middles of the intervals. When the plants are in, the soil between and around them is gently pressed down with the foot, then hoed a little and left neat.

This work is done early in October, or as soon as the ground is suitable in the spring. The first or second week in October would be the most proper time to plant here, even though the leaves should yet be on the plants, as the roots would strike, in this fine month, before the severe frosts commence, and the plants would be more vigorous and start earlier in the spring. If the planting could not be done in the fall, it should be done as soon as the ground is fit in the spring; or the heat and drouth might come and retard the growth of the plants.

In both cases, the plants are cut down almost close to the ground. If planted in the fall, they are cut down as soon as the frost is out of the ground in the spring, and *before the buds begin to swell*; if planted in spring, they are cut down as soon as planted. This cutting down to within half an inch of the ground is indispensably necessary, for without it there would be no hedge. The ground between and all about them is also kept *clean and frequently hoed*.

Some people cut down again *the next spring*, but it is much better to defer the second cutting until two years after the first one, and then to cut all close down to the ground as possible in the spring; the shoots then come out so thick and so strong that they never need to be cut down any more. But about the middle of the following July, the top and sides near the top are clipped off a little, and the bottom left still less clipped, so that the hedge may be wide at bottom and narrow at the top. In October, the new shoots are clipped again, but not quite down to the last cut, the sides being still left in a sloped form, wide at bottom and sharp at the top; when kept in that form the hedge grows close and bushy down to the ground, so as to form a completely close fence; but if left broad at the top, the bottom becomes open and the fence is not so good.

The clipping is performed twice in each of the first four or five years, with shears to be had for that purpose; afterwards with a long handled bill-hook.

The ground is also hoed and kept clean near the roots of the plants for the first five or six years from the time of planting; the fence will then be about five feet high, and is usually allowed to attain the height of seven or eight feet in meadows and fields, and ten or twelve feet around gardens and orchards, and from two to five feet wide at the bottom.

Of the beauty of such a hedge it is impossible for any one, who has not seen it, to form an idea. The leaf is beautiful in color and in shape; it is one of the very earliest in the spring, and preserves its bright hue during the summer heats. Its blossoms, which are white and fragrant, burst forth in the middle of May, and give the most gay and fruitful appearance to the meadows, fields and gardens which they encircle. Its usefulness in giving protection, shelter and shade, render it superior to any other sort of fence. The branches grow so thick and present thorns so numerous, and those so sharp, as to make the fence impenetrable. The shelter it gives in the spring and fall, and the shade it gives in the heat of summer, are so much more effectual than those given by wood or stone fences, that there is no comparison between them. This is important to the farmer whose profits depend much upon the good condition of his cattle, which improve more rapidly, and are in every respect more profitable, when thus protected from the chills of cold and wet weather, and also from the scorching rays of the summer's mid-day sun.

Another advantage which a quickset hedge possesses over any other sort of fence, is, that it effectually protects gardens from the depredations of *poultry*. Fowls will alight on wooden, brick and stone fences; but never on a quickset hedge, which affords no steady lodgment for the feet, and which wounds their legs and thighs and bodies with its thorns. It not only gives protection against intruders, but also affords shelter in cold weather and shade in hot. On the south side of a high fence, peas, lettuces, raddish, and many other things, can be had ten or twelve days earlier in the spring than in the unshaded ground; and during the heat of summer all these, and many others, thrive best in the shade, and continue to do so long after they will no longer produce in the sun.

The hawthorn is the favorite plant of England; it is seen as a flowering shrub in pleasure grounds; it is the constant ornament of paddocks and parks; the first appearance of its blossoms is hailed by old and young, as the sign of pleasant weather; the youth, of both sexes, adorn themselves with garlands made with flowers, and join in merry dance and rural sports around the hawthorn bush on the village green; whilst the more aged, seated beneath its shade, direct the joyous throng; and recount, with pleasing recollections, all the pastimes and pleasures of their youth. In short, take away the hawthorn, and you take away the greatest beauty of the English fields and gardens.

And why should America not possess this most beautiful plant? She has some of the English follies and English vices; and, why not English *hedges*, instead of post-and-rail and board fences? If, instead of these steril looking and cheerless enclosures, the gardens and meadows and fields, in the neighborhood of cities and towns were divided by quickset hedges, what a difference would the alteration make in the look, and in the real value too, of those gardens, meadows and fields? With due regard, yours, R. M.

N. B. If the white thorn plants cannot be procured here, they may be had from Liverpool, or London, in the spring; or the berries may be shipped from any port in Great Britain, in barrels, half sand and half berries, in November. Three barrels would fence a farm; and might be had for little more than two dollars a barrel, at any port in England.

Albany, March 22, 1841.

Letters from West Tennessee—No. I.

MESSRS. EDITORS—Observing but few communications in the "Cultivator" from this section of the country, I have thought that some thing interesting, and, perhaps, instructive, could be made out of the materials which surround us here; and the following remarks on the Cotton region of Tennessee may not be unacceptable to you and your readers.

This part of the State, called commonly the "Western District," is a newly settled portion of Tennessee, and contains the essentials of great future wealth and prosperity. It is of very recent settlement—a settler of a dozen years being considered very aged indeed. I allude in this more particularly to the counties of Shelby, Fayette and Tipton, occupying the extreme south-western corner of the State. The interior portion of West Tennessee was settled a little earlier, though the entire "District," that is the country lying between the Tennessee and Mississippi rivers, including a dozen or fifteen counties in all, has grown up within twenty years.

The interior counties were settled first, because the river counties were supposed to be little better than so many Pandora boxes—luxuriant in disease and death. But the very superior advantage they possessed in proximity to market, soon found adventurers, who, for the sake of the prize, were willing to encounter the risk; and it was then found out that the immediate borders of the Mississippi river were but little, if any, more sickly than the Mississippi Valley generally.

About ten years ago, Jackson, in Madison county, was the largest and most flourishing town, being a nearly central location in the "District;" but since then, Jackson has rather declined, and Memphis is rapidly supplanting it in size and in importance. As a commercial location there are few, if any, in the entire South West of equal promise with Memphis. Situated on a high bluff, on the great Father of Waters, and central to a large scope of cotton growing country, it must inevitably prosper.

The cotton region includes the two southernmost tiers of counties, and those bordering on the Mississippi river are, of course, mostly to be prized as such. Shelby and Tipton on the river, and Fayette and Haywood immediately in the rear, and Hardiman in the rear of Fayette, are the best cotton counties; and of these, Fayette contains most agricultural wealth. In the year ending June 1st, 1840, the shipments of cotton from Memphis amounted to 60,000 bales; from Randolph (some sixty miles higher up the river,) about half that amount. Yielding in a gross estimate, at the present reduced prices, three or three and a half millions of dollars. But the whole of this is not the produce of Tennessee—the northern counties of Mississippi, (late the Chickasaw nation,) send a goodly portion, and some is from Arkansas.

Cotton is planted here about the middle of April, after the corn is "done planted," as the negroes say. The seed is drilled, being covered very slightly in beds three or four feet apart. When it comes up, it is worked with the hoe, and gradually as it attains strength thinned out, until when three or four inches high, a small clump of two or three are permitted to remain about eight inches apart—this being what is called "a stand." It is sowed abundantly in order to procure "a stand," after the many enemies with which cotton is afflicted have concluded their ravages. The first of these is the cut-worm—a similar worm, I believe, to that which destroys cabbages. I have known whole fields cut off almost entirely by this destructive insect. When its ravages are so general as last year, it is called the "army worm." Whether it is different from the garden cut-worm, I am unable to say, but it certainly resembles it very much. Another enemy is of the louse kind. It covers the stem and under side of the leaf—myriads of them upon a single plant.

Cotton requires constant labor with the hoe. Grass grows so luxuriantly here, that it is with difficulty kept down, and the whole crop, be it seven or seven hundred acres, must be handled three times at least with the hoe. About the time of blossoming it is, in the current phrase, "laid by," requiring no more attention until the earliest blooms have ripened into cotton, which, in this latitude, is seldom before the 1st of September. The "bowls" then open and the cotton hangs out. The crop, however, requires several pickings, being dependant upon the successive stages of blossoms of the plant, and it is rarely until Christmas that all is out—indeed, I have seen it in the field until February.

There are few of the class of large planters here, being mostly of a moderate grade. The crops vary of course almost indefinitely in size. From two to three hundred acres in cotton is doing quite handsomely. This requires from thirty to forty hands, the usual calculation being seven acres of cotton and five of corn to each hand. One bale per acre, of picked or ginned cotton, is an excellent yield—more frequently coming short, than realizing that amount. A bale, packed, already for market, weighs from 450 to 500 pounds, perhaps averaging 450 pounds.

Corn yields tolerably well, though the climate is rather hot for it. Thirty or forty bushels per acre is a good yield, and commands almost always from forty to fifty cents a bushel. Wheat is a very uncertain crop, sometimes yielding nothing at all; and even when it yields, it is of an inferior quality to northern wheat. Ohio flour is universally used in the neighborhood of the Mississippi river. Immense quantities of up river produce are brought down in flat boats, which lie in crowds at the landings of Memphis and Randolph. I have counted fifty and sixty flat boats at the landing at Memphis frequently.

Irish potatoes grown here are of an inferior quality; they are good enough during the summer while new, but as a crop they are poor and watery; perhaps the fault is in the mode of cultivation, being permitted to take a second growth, which I think is probably the case; but sweet potatoes are brought to fine perfection, and are everywhere the main dependance for winter vegetables. There are two varieties of sweet potatoes, the yam and the long Spanish potato. The yams grow very large; I have seen them four, five, and even six inches in diameter. The climate is admirably suited to them, and they are, in truth, a most delicious vegetable.

If agreeable to you, Messrs. Editors, I will write you again, if any thing of a local nature should suggest itself to me.

E. H. K.

Fayette County, Tennessee, May, 1841.

Agricultural Geology.

Messrs. Gaylord & Tucker—Ten simple minerals, sometimes called the "Geological Alphabet," form the elements of our globe. These minerals, variously combined, constitute from twenty-five to thirty varieties of rocks, piled into mountains, also appearing in ledges and boulders, or loose fragments, scattered over the earth. Upon the character of the rocks depends the surface of country, soil, mineral wealth, and other facilities and resources for productive industry, and for physical, intellectual and moral prosperity.

The ten elementary minerals are quartz, felspar, mica, hornblend, lime, slate, gypsum, serpentine, talc, and chlorit. By various combinations, the rocks formed from them may be classed into five or six families. The *Granite family* consists of three members, viz: granite, gneiss and mica slate, all composed of quartz, felspar, and mica, in different proportions and arrangements.

The *Hornblend family* consists of three or four members, viz: greenstone, or traprocks, hornblend rock, hornblend slate, and sienite, masses of which are scattered extensively over the world, broken from mountain ranges of great extent in various countries.

The calcareous, or *Lime family* of rocks, consists of members more numerous, and more various in character, and not less interesting to farmers than either of the others mentioned. In this family are common limestone, most or all the marbles, chalk, (all carbonates of lime,) gypsum, or plaster of Paris, which is the sulphate of lime.

The *Magnesian family* of rocks embraces serpentine ridges, noted in agriculture only for their barrenness, but rich in ores which produce some of our most beautiful paints, especially chrome yellow. Soapstone is also a magnesian rock, composed principally of talc.

The *Conglomerate family* is composed of fragments, or scattered remains of the rocks just named, again collected and cemented into large masses, and even mountain ranges. They are pudding-stone, sandstone, and graywack, each appearing under a great variety of forms.

To the farmer, all the simple minerals, the various rocks and the families, or classes under which they may be arranged, are of much interest. Several of them, as they determine the character and constitute the elements of soils, may be considered almost fundamental, both in the science and art of agriculture. Those of special, and even paramount importance, are quartz, which is of the character of sand, and felspar, forming, when pulverized, varieties of clay and lime, which, though not essential to a good soil, like the other two, is still necessary to give a soil the highest degree of fertility.

Stiff soils, light soils, loamy, calcareous, and all other soils, depend much upon the proportions in which these three simple minerals, and especially the two first, are combined. Quartz, or silex, predominates in all soils, even stiff or clayey, as they are denominated. In light soils it is the principal ingredient, though pure silex, sand or quartz, produces entire barrenness; capable, however, in some instances of being rendered fertile by the addition of a small portion of clay.

If it should be asked, how these elementary substances and principles of soils can be rendered available by farmers, the answer must be, let them procure "Geological Cabinets," or specimens, so selected, arranged, labelled and described, as will present in a visible, tangible, intelligible form, the ground work of the whole matter. A small collection of such specimens seldom, if ever, fails to add others and still others, till tens soon increase to hundreds, and a single ray becomes broad daylight.

If such Geological Cabinets could be used and explained by lectures of a familiar practical character, their interest and usefulness would be greatly increased. At present it may be difficult to procure men competent for such lectures; but if a call should be made for them, with a prospect of remuneration, men entirely competent to the enterprise might soon be qualified; some could now be found, already prepared, to make such lectures in a high degree instructive and entertaining. To my mind, no step presents itself as more important for giving to farmers a knowledge of Agricultural Geology, or for promoting the improvement of their farms or their minds, than a call for cabinets and lectures, designed to illustrate this highly practical and popular science.

The "Geological Surveys" now in progress or completed in nearly all the States, present a strong reason why this or some other step should be taken, to diffuse the knowledge collected by these surveys, in large amounts, and at great expense, and which is still liable to be confined to a few ponderous volumes, placed upon the shelves of the State or college libraries, instead of going into the possession and to the use of farmers and mechanics, at whose expense such information has been principally collected.

If the thirty or forty agricultural journals now published in our country, should unite their strength in procuring and sustaining lectures as here proposed, they could hardly fail of a measure of success, which would give to them a large reward, by giving to the country a great amount of light, on a highly important and interesting subject.

New-York, May 10, 1841. JOSIAH HOLBROOK.

We have seen "Geological Cabinets," prepared under the direction of the Universal Exchange Lyceum, which, though consisting of twenty-five specimens only, are selected, arranged and classified in such a manner as to illustrate the elements and structure of our globe. As these cabinets are sold at $1·50 each, they may and ought to be possessed by every intelligent family in our land. They may be had of E. H. Pease, Sabbath School Depository, Albany, and of Messrs. Gould, Newman & Saxton, corner of Fulton and Nassau-streets, New-York.—Eds.

Culture of Tobacco in Connecticut.

Messrs. Gaylord & Tucker—I noticed in the last number of the Cultivator a request for information on the most approved method of growing and curing Tobacco. There is, in this village and vicinity, about 200 tons raised annually. I have for the ten years past made it a part of my farm-work to grow the article, and if you please, you may give your readers my method of growing it, which is nearly the same as other growers of it in this place.

I raise from two to three acres of it annually, this being as much as I can attend well, and cultivate properly the variety of other crops of my farm. In giving a full account of the process I will commence with what the tobacco grower calls the bed, which consists of a few rods of rich moist ground, as well prepared as the most productive garden; on this sow the seed about the 1st of April; as for the quantity of seed, I have no particular rule, probably a spoonful of good seed would be sufficient for one square rod of ground; in about three weeks after it is sown, it will make its appearance. The bed must be kept clean from weeds until the plants are of a suitable size to transplant, which will be generally about the 10th of June. The best method of preparing the land on which the crop is to be grown, is to dress the ground in the autumn with a coat of manure, and then another in the spring; in all about thirty loads of good manure to an acre. The land should be frequently plowed in the spring, that the manure may be well mixed with the soil. When the plants are of a suitable size to transplant, the land on which the crop is to be grown should be well harrowed, then rowed, which is performed by attaching chains to a pole about three and a half feet apart, which will be the distance between rows and drawn across the field, which is usually done by two men. On these rows, with a hoe, the hills are made, two and a half feet apart, in which on some rainy day the plants are set, one plant in a hill. If the season is dry, the plants must be watered immediately after they are set out. If any of the plants wither and die, or if the worms destroy them, as they usually do more or less, other plants must be set in the place. The plow or cultivator should be used between the rows to loosen the ground and destroy the weeds, and the plants be frequently and carefully hoed. The worms should be destroyed, or they will destroy or very much injure the plants. When the plant puts forth its blossom, so much of the top of the stock should be broken off as has not leaves of sufficient size to remain; also the shoots that spring out between the leaves should all be broken off. When the plants are sufficiently ripe, as they are generally about the 1st of September, they must be carefully cut and laid upon the ground to wilt for a few hours, then be carted to the barn and hung upon poles to cure. The plants fastened to the poles with twine wound around the stock across the pole, top downward, spreading them sufficiently for the free circulation of air, with the poles about one foot apart. The barn should be sufficiently ventilated, but not so much open as to expose the tobacco to winds and storms. Two months of mild weather will generally cure it. When the stem in the leaf is cured hard, it is taken down from the poles in damp weather, when the leaf will not crumble, the leaves stripped from the stock, bound in bundles called hands, and packed for further use. Most of the tobacco in this place is packed in boxes of 300 or 400 pounds each, and sent to the New-York or Philadelphia market.

When a barn is built expressly to cure tobacco in, as most of them thus used here are, it should be with ten or fifteen feet posts, twenty-four feet in width, and length as is wanted. A barn with ten feet posts, twenty-four feet wide, and sixty feet in length, will usually be large enough to hold the produce of one acre of land.

The produce from one acre of land, well cured, will average about one ton, or from 1,500 to 2,500 pounds. The quantity depending on the fertility of the soil, season, cultivation and curing. The comparative amount of labor required in growing this crop is about four to one of corn—that is, it requires as much labor to raise one acre of tobacco as it does four of corn.

J. P.

Warehouse Point, Ct., March 24, 1841.

Freezing of Potatoes and Apples.

Messrs. Gaylord & Tucker—I am always eager for the perusal of every communication from your respected correspondent of Essex county, (Va.) and believe I also express the opinions of others, when I say that such a man as James M. Garnett cannot be "zealous overmuch," in the cause of agriculture. On reading an article of his in the February No. of the Cultivator, vol. 8, on the preservation of root crops, the facts therein stated in regard to the Irish potato being perfectly preserved after repeated freezing in the ground, and yet if permitted to freeze out of the ground, is thereby entirely destroyed, brings to mind a fact within my knowledge, which may not be generally known. In the fall of 1837, my winter apples were put up in barrels with dry earth, and stored away in my barn. The approaching winter proved to be uncommonly cold, and in the course of winter, I do not believe there was a single apple in the lot of barrels, eight or ten in number, but was entirely frozen to the core; but as warm weather approached, a gradual thaw took place in each barrel of apples, without, I believe, a single apple having been injured by the freezing; on the contrary they greatly improved by the mellowing process that took place with the thawing. They were a large red pleasant-flavored apple, known with us as Abrams. I do not pretend to know that apples are invariably liable to rot by being permitted to freeze and thaw out of earth, but am inclined to believe so. I have understood from persons engaged in the oyster business during winter, (and do not doubt its correctness,) that if frozen oysters are returned to their own element while frozen, they will not die, but if permitted to thaw by the action of the atmosphere alone, all hope of their recovery is at an end, and to put them in water for the purpose of saving them would be useless.

I like to have forgotten to add that I suffer my Irish potatoes to remain in the beds where cultivated, protected by a heavy cover of fall grass, all winter, and dig when wanted for use, (I only plant a sufficiency for family consumption,) and find them in the spring but partially injured.

C.

Warwick co., Va., March 17, 1841.

Floored and Unfloored Stables.

Messrs. Gaylord & Tucker—Among the many valuable articles which the January No. of the Cultivator contains, one is headed "Stables without Floors." I have been in the habit, for a few years past, of using floored and ground stables, and have concluded that in general for cattle, stables without floors were the best; but for horses, I prefer a good plank floor for this reason: I think that a horse can be kept more comfortably and cleaner on a floor than on the ground; and I think full as much manure can be made on a tight floor as on the ground. One argument which your correspondent uses is, that "horses' hoofs are greatly benefitted by standing on the ground." Now, I do not profess to be much acquainted with horse flesh, but I think it looks reasonable that the cleaner and the more dry a horse's hoofs are kept, the better they will be preserved from disease; and I am certian that they can be kept as dry on a floor as on the ground. We are now using ground and floor stables for our cattle, and I don't know but that we make as much manure on our floor as on our ground stables. But as floor stables will be used by a good many, I would recommend to all those who are about building, to have their plank sawed of an even thickness and jointed so as to make it tight. In laying down the plank, let them be laid so that the hind feet of the cattle may rest an inch or two lower than their fore feet. Let there be, at the bottom of the floor near the door sill, a trough sunk down on a level with the floor. This will serve to catch all the liquids and juices which will fall on the floor, and with a shovel, it can be put in and mixed with the heap. In this way I think full as much manure can be made as upon the ground. With regard to spreading manure about the cattle yard, I am of the same opinion of your correspondent, that to let the cattle tread upon it, it serves to mix it with other manures; if left to lie in a heap it is apt to burn, and become useless. We have found too, upon trial, that one load of manure housed, is worth two loads which are left out to be drenched by the rains and to undergo the action of the frost. It will pay as good interest to house our manure as to house our cattle. Those who have no convenient place to put it, let them erect temporary sheds to keep it in. Yours with respect, L. DURAND.

Derby, Ct., February 4, 1841.

A Journey Contemplated.

Messrs. Gaylord & Tucker—I now have it in contemplation to make an extensive agricultural tour during the coming summer, and it would be a great pleasure to me, and I have reason to believe it would be equally so to some of your readers, to form a personal acquaintance with them as far as practicable; and as I shall "take notes," and you will "print them," it may also conduce to our mutual improvement. I have, therefore, thought proper to make this public announcement of my intention and route. All communications addressed to me before the 1st of August, at this place, upon the subject of the journey, or requiring business done on the route, will be attended to. I shall also be glad to communicate with the friends of agricultural improvement at the following places, and I shall call upon the following named persons, with whom any information for me may be left, viz: Friend Willets, Editor of Indiana Farmer, Indianapolis; Hon. John Sering, Madison, In.; Thos. B. Stevenson, Esq., Editor Kentucky Farmer, Frankfort; Messrs. Affleck & Hopper, Editors Farmer and Gardener, Cincinnatti, O.; Hon. H. L. Ellsworth, Commissioner Patent Office, Washington; James M. Garnett, Essex co., Va.; G. B. Smith, Esq., Baltimore, Md.; James Pedder, Philadelphia, Pa.; P. Sather, Esq., Broker, 164 Nassau-street, New-York. I shall also visit Stonington, Ct.; Providence and Boston.

At Albany I shall not only see you, gentlemen, but, I trust, many good friends. Returning, I shall visit Utica, Rochester, and at Buffalo, *sans ceremonie*, I shall invite myself to partake of the hospitality of A. B. Allen, Esq.

I hope to be able to give some information about matters and things in the West, to those of my agricultural brethren with whom I may chance to meet, and I expect to gather a great fund of useful information for my own use, and that of others, at some future time. Among other things, I intend to

satisfy myself whether it is yet time to form a "National Agricultural Society."

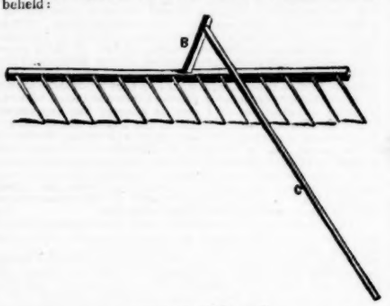
I intend to take the journey at that season of the year when I can witness and compare the growth of crops between different sections, and see the improved stock to the best advantage, and I hope I shall have occasion to speak highly of every portion of the route. I remain with much respect,

SOLON ROBINSON, [Post-master.]

Lake C. H., Ia., April 2, 1841.

Improved Rake.

MESSRS. EDITORS—Below I send you a rude drawing of a rake, made by myself, which I think is an improvement, which, perhaps, none of your numerous readers have as yet beheld:



DESCRIPTION—[*Fig.* 57.]

A, head of the rake, six feet long, one and a quarter inches square, made of good timber. B, a piece to set on the top of the rake in the center, with half inch tenon; C, handle, to go through stick B, with braces running from the head to the handle. The teeth are one foot long, six inches apart, going through the head with half inch hole. The rake runs flat on the ground, like a horse-rake. The advantages of this rake are, that, where persons using a horse-rake, and in raking it over once cannot get it clean, they can finish the operation quicker with this, than two men can with common hand-rakes; and for raking after a wagon, a boy can rake after two men pitching with all ease.

Yours with respect, G. W. T.

Conesville, Scho. co., March 29, 1841.

Gapes in Chickens.

MESSRS. EDITORS—In your April number, a correspondent attributes the gapes in chickens to breeding from too old cocks. Whether this will have any effect to produce the disease, I am unable to say, but I have long since found a *preventive*, and practiced accordingly. This I have communicated to others, who have complained of the malady, and similar treatment, as far as my knowledge extends, has been attended with the same marked result.

The disease is prevented simply by scanting them in their food. Who ever heard of chickens which were not confined with the hen, but both suffered to roam at large and collect all their own food, to be troubled with this disease? The most common food for young chickens is Indian meal, mixed with water so as to completely saturate it. This, when eaten in too large quantities, is almost sure to produce the gapes. Great care should, therefore, be observed in the feeding of them, and the meal should be previously mixed some few hours, or otherwise it will swell in the *stomach* of the chicken, which, when full, is the very cause of the disease.

Brooklyn, N. Y., April 20. GARRET BERGEN.

Water Fountains and Sun Dials.

MESSRS. GAYLORD & TUCKER—I have read with much pleasure an article in the Cultivator, some time since, on the subject of plans for gardens, from the pen of Mr. WALSH, whose name I cannot, with self-satisfaction, pass over without acknowledging the tribute of gratitude, which is due him from every member of community, for the result of his persevering efforts to improve the state of agriculture and horticulture. In that article he made very appropriate mention of artificial fountains, and of a sun dial, the one as, perhaps, the most beautiful appendage to an elegant garden, and the other as a cheap, but very convenient one; and I would add, to every person engaged in practical agriculture. And I perceive, in the last number of your paper, a request from the same pen, to be informed where those articles can be procured.

I, therefore, take a threefold pleasure in giving Mr. Walsh the information requsted; in promoting the interest of my friend, Mr. D L. Farnam, by informing the public that he manufactures, not only the apparatus for fountains of any degree of elegance, accompanied with directions for setting them up at a very cheap rate, and correct sun dials for a mere trifle; but also pumps of most superior construction; fire and garden engines, and almost every article connected with the subject of practical hydraulics; and I think I confer no small benefit on the public, through your assistance, by the vast circulation this information will have in the Cultivator, on a subject in which every section of country is interested.

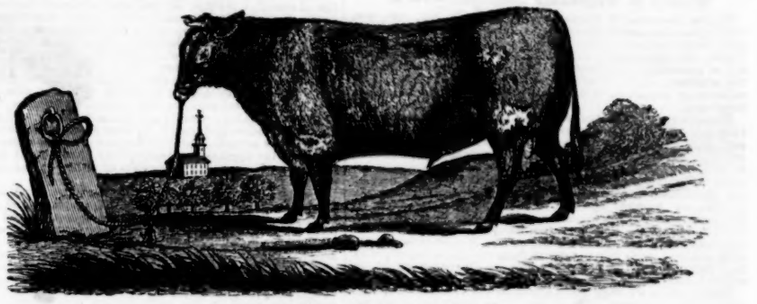
I have consulted Mr. F. on the subject, who has politely showed me his apparatus, and various plans for garden fountains, with ornaments of various descriptions, which, I think, must meet the approbation of every person of taste, who is able to be the owner of a handsome garden.

For the character and utility of his pumps, Mr. F. refers me, and I would refer the public to a communication from Mr. Phelps, in No. 11 of the Cultivator for 1840.

In addition to the above, I would beg leave to suggest that I think, where there is a handsome enclosure in front of a house, one or two artificial fountains, throwing up sprightly jets of water, and surrounded with tasteful embellishments, would have as pleasing an effect as those placed in the garden, and I should imagine, no person in easy circumstances would grudge the expense of both.

S. BLYDENBURGH.

New-York, May, 1841



AYRSHIRE BULL.—[Fig. 58.]

MESSRS. GAYLORD & TUCKER—I have enclosed the profile of an Ayrshire Bull, (fig. 58,) that was sired in Scotland, in the district of Ayrshire. The dam was imported by JOHN P. CUSHING, Esq. of Watertown, Massachusetts. The bull was dropped soon after landing, on the importer's farm, two years last grass, which is full middling size. *Color*—deep cherry red, with some spots of white, variegated and interlaid with the red on the fore leg and hind quarters, and some white in the face. *Eye*—the smallest that I ever noticed in a beast of its size, but very clear, bright and prominent, looking well behind. *Forehead*—broad and flat. *Cheek* and *muzzle*—small. The *nose* very small, and of a clear yellow; if possible like the *horns*, which stand forward, crooked, and raised a little at the points, and their roots at considerable distance from each other. *Legs*—straight, short, flat and small below the knees, standing well before and behind, with firm joints. *Neck*—middling size and tapering towards the head, which is small. *Body*—barrel form. *Tail* is set on a level with the back, round and tapering, quite slender as it tapers towards the round bunch of hair at the bottom. The general figure compact, and well proportioned. The bull from which I sketched this portrait is owned by WILLIAM CHAPMAN, of this town—a valuable present. The donor was Mr. CUSHING, who is noted for his liberality and encouragement to agriculture; *liberality*, at home and abroad.

This breed of cattle are in high repute as a dairy stock, and also for their quick fattening properties. They will keep fat on shorter feed, and where many breeds would not thrive at all. It is said that no other breed in England is considered so valuable for the purpose of milking, excelling equally in quality and quantity; they are called the "best possible poor man's cow," from their ability to shift on very scanty keep. This bull has the appearance of hardihood, and more profitable in this dairy zone than other larger breeds that have been introduced here. SOLOMON W. JEWETT.

Weybridge, Vt., February, 1841.

Lunar Pointed Asparagus Knife.

IN cutting asparagus with a common knife, it must be obvious to every one that it cannot be done, without frequently destroying the younger shoots below the surface. Moreover, as the knife is passed down nearly perpendicularly and then laterally, to make the cut it necessarily leaves a long scarfed portion, which must be trimmed off in preparing the bunches. The lunar pointed knife obviates both the above objections to the usual mode of cutting, and makes a considerable saving of time. The blade and handle are like a long spatula or spreading knife. The blade may be from six to seven inches in length, and from three-quarters to an inch in breadth, so as to embrace the largest stalks. The end of the blade is cut and sharpened in a crescent or lunar shape. The edges of the blade, and also the extreme points or horns of the crescent edge must be blunt and smooth, to prevent injury to the rising shoots, and the crown of the roots. In using this knife, the blade is passed down near and parallel with the stalk, and by inclining the handle a little from the stalk, the cut is readily made, at least from one to two inches lower than by the usual method. The drawing will afford an idea of the instrument. The edges *a*, *a*, of the blade are blunt and smooth, as also the points *b*, *b*, while the crescent edge is kept sharp. I have given this knife a fair trial, and am confident that any person using it, would never after be willing to dispense with it.

[*Fig.* 59.]

C. G. PAGE, M. D.

Washington, D. C., May 4, 1841.

Feeding Silk Worms, &c.

MESSRS. EDITORS—In answer to the inquiry of your correspendent, "Whether silk worms, partly reared on the white mulberry, may be fed with safety on the large leaf Canton or multicaulis, and also whether they may be fed with these kinds together or alternately, with advantage?" I reply, that for the two last seasons I have fed a few silk worms merely as an experiment. The last season, getting short of white Italian mulberry leaves, I procured from my neighbor, L. A. SPALDING, Esq., some morus multicaulis and fed my worms; I followed feeding the two kinds alternately for ten or twelve days, and frequently both kinds together, without perceiving any difference in the health, or growth of the worms. I have also on one or two occasions, fed them common lettuce, without its producing any injury; but they will not readily eat it. It is pretended by some that the worms are more fond of the leaves of the China than of the Italian mulberry; but I could never discover that they gave either kind the preference, when fed to them together. Yet I cannot see that any thing would be gained by feeding them alternately.

I will also add, that as far as my experience extends, the white Italian mulberry is preferable to the multicaulis, for the reason that it stands our climate better, and is reared with less trouble, and although the leaves are much smaller, yet they are heavier, and not so porous as the China, and a leaf of the Italian will afford as much food as one of double its size of the China.

I will add further, that there is no difficulty in rearing the silk worms in this climate. I have scarcely ever lost a single worm, although I have taken no very great pains with them; yet I would advise persons who know nothing about the business, to procure a few trees and obtain a small number of worms, and feed them for one season, and they will then be better prepared to enter into the business more extensively.

In conclusion, I will add, that at the present price of labor, I do not believe the business would warrant a large investment: I am convinced, however, that farmers and others who have large families of children and females, could engage in the business to a moderate extent, and raise say from $100 to $300 worth of cocoons yearly, without interfering with the other operations of the farm, and which would be nearly a clear gain to the farmer. It would be something like the eggs, poultry, &c. of the house wife, which costs the farmer nothing, yet adds very much to his receipts in the course of the year Yours, &c. S. H. NICHOLLS.

Lockport, February 12, 1841

To Destroy Lice on Cattle.

The direction in the Cultivator (February No. page 30, 1841) recommends unguentum, or mercurial ointment, to destroy pediculi, or lice. I am inclined to believe that the virtue of unguentum is not derived from the mercury contained in the ointment, but from the grease or fat with which the mercury is incorporated. Grease, fat, lard, or any oily substance, if applied to neat cattle infested with pediculi, will have the desired effect; but it must not be applied by a string around the neck, but by being well rubbed into the hair on those parts where the vermin are found, and repeated until they are destroyed. Insects have no lungs, but breath by spiracles or minute holes in their bodies; and if these spiracles are clogged with grease or fat, they become suffocated and die. Goose grease, hog's fat, pot-skimmings, will all answer the purpose, and may be obtained in any farmer's family without cost. Tobacco, also, will kill these vermin on cattle, by its operation on them as a poison. A simple infusion of tobacco, applied warm and rubbed into the neck or dewlaps, or wherever found, so as to completely wet the hairs, and repeated at an interval of a few days, will destroy the nits and lice in a short time, and at a cheap rate. The curry comb should be used after the application.

RICHMOND.

The Canada Thistle.

MESSRS. EDITORS—I was exceedingly gratified to see that your attention, and that of your correspondents, had been called to the extirpation of that most noxious of all weeds, and most difficult to eradicate, the Canada Thistle.

I have determined to communicate my plan of destroying them; and having had much to do with them for many years, I unhesitatingly declare, that I have never tried any method that will do the thing so economically and effectually.

I usually commence about the first of June, cutting them off close to the ground, with a common broad hoe; again in August; and if necessary, should any make their appearance, early in October. In all candor and honesty, I would say, that I have succeeded in two seasons in subduing whole patches in this way.

I cheerfully submit it for the consideration of your Niagara correspondent, and all other readers of your valuable journal, with a firm belief, if they will but try my plan, that they will succeed. C. M.

Ludlowville, N. Y., April 30, 1841.

The Turnep Fly—Inquiry.

MESSRS. EDITORS—I desire, and many of my neighbors would be pleased to learn, the best and most effectual method of preventing the depredations of the insects upon the young ruta baga plant. Three years since I raised about five hundred bushels of ruta baga upon little more than half an acre; but for the two last years, the fly has, comparatively speaking, destroyed my whole crop. Last year I sowed twice, and finally plowed up the same ground for wheat without any regard to the ruta baga crop, it was so far destroyed.

The proposition for the establishment of the "American Society of Agriculture," meets with my decided approbation, and your correspondent, Mr. SOLON ROBINSON, is informed that he may rely upon the subscriber to second his views with all honorable efforts.

I am, gent'n, yours, &c., most respectfully,

B. A. BIDLACK

Wilkesbarre, Luzerne co., Penn., May 12, 1841.

Scalding Peas for Seed.

MESSRS. GAYLORD & TUCKER—In the April No. of the Cultivator, I noticed an experiment of Dr. PLUMMER on scalding the pea, and I can assure you it may be done with perfect safety. I have practiced it for twelve years in succession: my method is to put a bushel or less in a tub; have boiling water ready, enough to cover them; pour it on, and stir them in it one minute. Pour them out into a basket, and throw a pailful of cold water on them, and stir them; no matter how quick, after they have been in the hot water one moment, the larvæ of the bug will be completely destroyed, and the germ of the pea uninjured. If you wish to have your peas come forward early, soak them twenty hours in urine, and dry them by rolling in dry unleached ashes or plaster; but ashes are best. Respectfully yours, R. JENKINS.

Glenn's Falls, April 22, 1841

AGRICULTURE is the most ancient, the most honorable, and the most useful of Arts

Theory of Vegetable Nutrition--No. 2.

MESSRS. GAYLORD & TUCKER—In your August No., 1840, you were pleased to insert a communication as to some of the views entertained by me, of the "Theory of Vegetable Nutrition." Those, like the present, originated in the hope, that some person of scientific acquirements and of studies better suited to the exigency, might be induced to take up the subject, and to enforce the accuracy, or demonstrate the misconceptions there suggested.

Physiology, or those branches of it which may be considered referable to agriculture, and the study of anatomy, (I would say, no less human than comparative,) are so closely connected, that, as Haller imagined, they can hardly be separated even in idea. In his opinion, the man who should attempt to become a Physiologist without anatomy, would act as wisely as the mathematician, who, without seeing the wheels or the pinions, or without knowing the size, the proportions or the materials of any machine, would yet presume, from mere calculation, to determine its powers, its properties and uses. Assuredly, without it, no one is able to prosecute such studies, much less to impart their results to others, with half that pleasure or success which he otherwise might, in either the animal or vegetable kingdom.

Indeed, when we view the subject in the broad aspect into which vital existence, animal as well as vegetable, leads us, and, independent of agricultural observation, the branches of *scientific* acquirements into which a development runs, a practical *knowledge and habit* of chemical essay and demonstration, of experimental as well as natural philosophy, of medical science with its pathological relations to comparative anatomy, functions and derangements, of geology and astronomy, too, seem indispensable.

Such exigencies are calculated to deter, as they unquestionably, in a great degree have, any other than a medical student, and one zealously devoted to every physiological branch, and its connection with his profession, from entering upon them. Nothing is hazarded in the assertion, that almost exclusively all the data from which conclusions may, with any safety, be drawn up to the present condition of those sciences and their developments, have originated from the most zealous and devoted disciples of that elevated pursuit in life.

In the natural desire, however, of arriving for myself at the most intelligible conclusion of which I was capable,—one suggested by interest as well as pride, I have looked with remunerating gratification, into the wide field which such a study opens; and while I, no less than others, have felt the imposing diffidence attendant upon such an effort, I have been unable to resist the conclusion that agriculture was in need of some things, *above* which the wings of science seem recently to have taken and now to hold their ambitious and adventurous flight; soaring from nature up towards nature's God, and fired by the success of our immortal Franklin, seizing upon the elements which surround us; which, as is evident, do blend themselves with vitality; with the "*Callidum innatum*" of Aristotle of old; which seem to maintain and *uphold in unison* the vital relations of the animal and vegetable kingdom, with its aeriform influences; such as the etherial and seemingly assimilated principles of electricity, galvanism, voltaism, magnetism, light, caloric and oxygen; again seeking to bring them like electricity down to earth, and within the grasp of genius, endeavoring to subject their relative connections with vitality to the alembic fire of chemical intelligence and essay, to decompose and hold them as it were in the hand to human view, as visible as they have recently brought to light the minute organic structure of animalcular formation.

Without idly seeking to disparage such efforts,—efforts which seem likely to lead to *intellectual* results, perhaps as beneficial to mankind as any that have heretofore been vouchsafed by Heaven to human efforts,—I would with all deference respectfully ask leave to draw the line of demarkation between what is scientific, ethereal, and *yet to be* disclosed to us, what may be *hoped for* of things *as yet unseen*, and what we actually know and possess; and without blending the *utile cum dulce* in study, as far as my feeble intelligence may permit, to separate them; in order that, till the sought for things are known, we may be practically familiar with, and use what we do know, bearing in mind the adage, "while the grass is growing" to look to its sustenance with equal care to that which wisdom suggests, as to every other living thing within the range of our duties, nor hope for thrifty results with either but from like sources.

Vegetation, in this, appears to me to be susceptible of a distinct division, and *for the present* its *better half* to be at the same time of a familiar test for application, referable, as such a one ever should, if practicable, be, to the intelligence or conception of the most limited capacity.

The primary, and as I conceive, the main question, under ordinary circumstances with the plant, is NUTRITION, or that artificial or alimentary contribution to the vegetable or animal organization, (for in my view, with either it is equally imperative) which the sap or the blood equally require for sustenance, and the elaborate and assimilatory functions of its structure, to enable the plant to fill to the full, and ripen each seed according to the peculiar exigency of *its farina*, and which the agriculturist cannot unduly, and without a helping hand, ask of exhausted mother earth to perfect to his use.

Although I would refer with as much kindness to the delusions of Tull, as Sir Humphrey Davy himself, and gratefully award all that is unquestionably due him for his unwearied as well as useful efforts and practical demonstrations of the good effects of *tillage*, the days are past or nearly so, when etherial aliment only, (whatever it may amount to in philosophy,) can be considered enough to support vegetable, any more than our own animal existence.

In my former communication, I ventured the position, that the functions of vegetable life, structure and development, were subject to alimentary as well as medicinal principles essentially similar to those which govern animal or human existence; and I was the more induced to give publicity to that position, because occasionally I had seen influences and results imputed to different substances occasionally recommended for fertilizing the soil or promoting vegetation, little less than wizard or magical, and far beyond any nutrient quality I could suppose them inherently to possess.

If the positions I have taken be true, there can no doubt be abundant proof of its accuracy found to support it. If untrue, there are at least enough to refute it. If true, assuredly no more intelligible standard can be adopted to regulate our judgment in agricultural appliances, than one which, *mutatis mutandis*, refers the alimentary or medicinal requisites of vegetable life and functions, to our own.

That eminent physiologist and chemist, Fourcroy, in speaking of the natural philosophy of vegetables, says—"All those functions of vegetables which bear such striking analogy to those of animals, are liable to alterations by which the vegetable is brought to a diseased state. These diseases to which plants are liable, depend commonly, either on a superfluity or *defect of sap*, or the bad quality," (I would say defective consistency,) "which the sap may happen to acquire; and they bear therefore, no small resemblance to those with which animals are affected. Their causes, symptoms and cure, *come under the general principles of medicine*," (no less than aliment) "and form a branch of agricultural knowledge in which it must be confessed, little progress has yet been made, but which may be greatly advanced by following the directions of some celebrated modern writers." I would ask of whom?

But, to support the position I have taken, let me ask, does the chemist in seeking his demonstrations of the component parts of vegetable or animal substances, through ordinary agents and re-agents stop to inquire whether the matter proposed for analysis be of the one or the other derivation? Has it ever been found that the operations of chemical tests for the one, differed from the other? Do not results on such essays, conclusively demonstrate the similarity of medicinal influences with both? Do not the eccentric results of chemical contact with the vital energies and qualities of plants, while imbued with vitality, equally and alike, baffle physiological and chemical studies and tests? Is there any one simple substance found in the animal fluids that has not also and alike, been detected in the vegetable organization? Are not all alike assimilated to the peculiar properties of either by the one or the other organization?

If we see an analogy in the vital principles attendant on each from the fecundation of the embryo, throughout and up to its repetition in a successor, in the organization and development of its structure, in the instinctive impulses to nutritious assimilation, with an equally blind and mysterious vital tendency to the attainment of congenial, and the repulsion and excretion of offensive matters, in the cellular formations of the frame, the circulation of the vital fluids and atmospheric influences, (as I may hereafter show, we do) distinctly and necessarily the same, in the vegetable as in the animal frame—where, I would ask, is all the supposed embarrassment or mystery in administering to the wants of vegetable, any more than animal life?

Our greatest difficulty plainly lies in the fact, that our fathers, like ourselves, have been nurtured and educated in the habit of cultivating a *primitive soil*. The labor and expense attendant on the accumulation and application of manures with the necessity of *unlearning* (the most inveterate of all difficulties,) old habits, and coming to that *new one*, which the necessities of our position now so audibly begin to require of *us*, as it has for ages heretofore required of nineteen-twentieths of all the earth besides, revolts and discourages us. And as it has driven us to the west, where exhaustion in its turn has overtaken us, still drives us to the *far* west; as it will again to the farther and still farther west, and till the labor and expense of shipment, transhipment and tolls shall find the sea-board exhaustion, and its necessities for manuring applications more profitable than far west, and primitive tillage *for the sea-board*, at these immeasurable distances.

But let us remember, the farmer in this country *owns his* soil, and holds, with a comparatively small capital, a farm, which elsewhere would be called a princely estate; elsewhere, the land is doled off by the square yard, for the benefit of a lordly superior, to a humble peasant and laborer, at an *annual* rent equal to the whole per acre and fee simple price of our land. Not only the soil there, but every requirement and convenience of life is overloaded with taxations and *impositions*, (justly so termed!) to the *ne plus ultra* of exaction; and that alas! required to glut and pamper the bare-faced knaveries, sensualities, and vanities of those gilded toys for full grown children, called kings and nobles! Yet still, for the mere privilege of breathing, these rents and taxes *are* paid. The landlord there is the recipient of a great revenue; and the land taken up in a condition far from primitive, is manured and held to a standard of fertility far above ours. *How is this so?* It is because the only security there against loss, is in the maintenance through tillage and manuring of the maximum standard of fertility in the soil, and one here *with us equal* to theirs.

It may be an unwelcome truth, but we may as well learn the fact, if we do not know it already, that the per acre product with them, with a more discouraging climate than that of the State of New-York, is far above *us*; and therein lies the ability of their tenants to pay the enormous rents and taxes under which they suffer; and which they pay, getting *nett* prices, little, if any greater, than we do.

Tull, mistaken as he was, in the fancy that the plant's existence and nutriment, was like the fabled Chamelion's *aeriform*, only insisted, in common with the prevalent opinion of the seventeenth century, and he demonstrated clearly too "that tillage *without manure*, was better than manure *without tillage*." Evelyn insisted, and observed with no less certainty, that soils, of whatever standard of fertility, were very perceptibly improved by *mere tillage*, and that aeration and atmospheric contact which attends it; and the more this was done, the more the soil improved.

We find this conclusively shown in the effects of hoed and tillage crops: a consequence, the rationalia of which, independent of a chemical result, which I will seek to explain on another occasion, would be best conceived and readily assented to, if the agriculturist would but advert to the additional and spontaneous extension of those slender and minute roots of the plant, which *thus are aided in their search after food*, and the growth of which are so extended and multiplied by merely stirring, aerating and loosening a well constituted and loomy soil. If he would but advert to the no less obvious fact, that each of those minute roots and branches are *living structures*, having as strongly marked an inclination and desire (if I may so term their impulses,) to go, and as anxiously too, if enabled, to nutriment, as a hungry animal would to a hay stack—that nature has implanted in each similar tendencies, under corresponding facilities for locomotion.

To prove that air and water *only*, (alas! that it should ever have been so conceived,) were "*all the aliment*" required by vegetation, not only Tull and Evelyn, but philosophers of celebrity and undoubted sagacity, such as of the days and age of Tull, Van Helmont (the *alchymist!*) Boyle, Bonnot, Tillet, Duhamel, Braconnot, and "others of that ilk," demonstrated, as they thought, such conclusions. Some of them in fact, induced the germination of seeds, and a sub-modo development of the embryo and its vital organization, with the flour of sulphur, washed and exhausted earth, and leaden shot, and carried some of their plants by dint of watchfulness, watering and labor, even to flowering; and all to do *as is done every day* with the bulb of the hyacinth. They thence sought to have it inferred, nay pretended to insist they had done *all* that was required to support their "*notion*."

But they dissembled the fact, that those flowers (as is the case of the hyacinth, when fed from *the bulb in water only*) produced *no seeds*. That in a great majority of instances, they (with seeds containing less farina or nutriment than the bulb) totally failed.

But I would ask, *whence* should the plant have matured the *farina* of a seed? For that assuredly, is not only the primitive exaction of nature for the succession of the plant, but it is as all experience shows, the moment for calls upon and exhaustion of the stalk and of the soil; for drafts on their stamina; and it is distinctly when the plant must fail in maturing *and filling the farina* of its seed, if aliment in the stalk be wanting. It never was conceived that a plant could, any more than us, *create a substance*. They do but elaborate such as they obtain and can assimilate; and it is little less than folly to suppose they can, any more than us, give form and visible nutritive matter as a product of mere aeriform or gaseous exhalation, or vapor. The latter may be quite as necessary to give tone and energy to their respiratory and secretional functions as to ours, or as the one or the other prevail, may qualify the assimilated product in the organization, and yet be *no farther nutritive* to the plant, than mere gas is to us.

It will thus be perceived, that in my views of the Theory of Vegetable Nutrition, *good tillage* of a well constituted soil, in due rotation (or progressive exhaustion,) with the aeriform and aqueous assistance to vegetation which *nature* gives, constitutes much,—I would say, with us more than half of all that is required, because it leads the organism into full and healthy action, and *judicious* manuring, assisted in such tillage by frequent plowings, good harrowing, and plowing in green fallow crops,—the natural and spontaneous chemical results from the soil, from the atmosphere, and from manure in *proper condition*, or *due progress* towards their ultimate decomposition, proper medicinal, or calcareous correctives to pernicious acidity, when it is found to prevail, and the seasonable blessing of an ever bounteous Providence, *are all the residue*.

Leaving to a future occasion, the *modus in quo* of obtaining, and the rationalia of applying that manure, let me conclude this topic by an allusion or two to the recent applications of *electric* effects to vegetation.

Tull, even in his early and *benighted* day, saw, and alludes to its influence on wheat; DeCandolle and Sprengel acknowledge its effects on buckwheat; and recently, confining its influence artificially in contact with oxygen, or attracting it to the vital energies of plants, and to the acceleration of embriotic development, physiologists and chemists have shown it greatly to hasten these results. This no doubt, is so; but what do these experiments and effects, unquestionably beautiful, highly intellectual in their exhibition, show? Nothing *practically useful* to the plain agriculturist, or any thing more than mere nitrogen gas, in its administration for catch-penny exhibition to human beings, long since has shown; or more than alcohol at this day deplorably shows, super-excitation of vitality; mere intoxication, (if I may be allowed the expression.) But in its effects, what? Blight in the wheat, *undue* increase of straw; as a necessary consequence, exhausting diminution of the *farina*, and in the number of seeds of the buckwheat; cresses and embriotic vitality unduly, and *prematurely* hastened by super-excitation and stimuli—"coming into this breathing world scarce *half made up*, and that so lame and unfashionable, that" a sterile curiosity only is the consequence—ricketty, short-lived and worthless of course.

When the dazzle of such novelty shall have passed away, it will be seen that the organic structure of plants can no more thus be super-excited and sported with than our own. I would say nothing against such exhibitions or studies as connected with the elementary principles of vitality, from which much usefulness may, probably will, be elicited. But when the results to which these researches evidently tend, are attained: that of showing if not the *identity*, at least the intimate connection of electricity, light, caloric and oxygen, the one with the other, and of each with vital functions, it will be found that their influence on vegetation, is no farther applicable there, than to ourselves.

The plant being, like ourselves, an organic circle for vital action, equally dependant for health on the natural temperature, equilibrium and play of its frame, when driven from that equipoise by stimuli, which every day's experience shows, may be produced with either, not only through the false mediums to which I have adverted, but in the plant, even through the injudicious application of *unfermented manure* itself, wastes under super-excitement, as we would ourselves, its vital energies, and relative exhaustion and sterility with it as with us, is a necessary consequence.

In the medical treatment of human beings, electricity is used to raise a *sluggish action* of the system to its natural pitch—*never beyond it*.

The great and inviting reward which nature ever holds up to the zealous inquiries and ambition of her votaries, is her *uniformity*, from which she never varies; and that characteristic will be found beautifully interwoven with, and illustrated by the analogies of vegetable to animal existence. A principle once attained and well conceived with either, may be viewed as an end of the thread of a mysterious ball, fearlessly taken up, and *cæterus paribus*, drawn out through all its applications as appurtenant to both, and with the assurance, if not so, it is probably not well founded, when they *seem to differ*, the attempt at least should be made to point to the fact, and seek the solution of a divergence from the common principles of their vitality.

As at every step which Newton took towards the development of that stupendous mechanism which he brought to the light of an admiring world, he became confirmed in his belief in the existence of the Deity and strengthened in those hopes in the future, without which *even his* existence here would have been a blot; so in the study of those principles of vitality into which for our purpose, the analogies of animal and vegetable existence lead us, will he find as our reward the most irrefragable proofs in physiology and its attendant sciences, of that most consolatory of all earthly reflections.

The organic formation of plants, animals and human beings, equally forbid the idea of a chance or sponte nascential vital production, or the offspring of either from mere natural influences.

If we could suppose a plant or an animal in its origin, as a self-constituted existence, we must suppose *simultaneously* the existence of *other* plants or animals, or of necessity it must have *perished for want of sustenance*. Because, through all nature, nothing can be found nutritive to vital existence but matter, of *previous vital formation*, or, in other words, of a material which the organism *may assimilate*. The earth, therefore, before vitality was created, could offer, as geological formations anterior to organic depositions show it did, in its previous materials, nothing alimentary.

In the case of the plant, we must suppose its precursors to have *matured*, and to have been already in a state of decay, and solution for aliment, or without provision from some independent quarter for sustenance, the first plant must have perished.

If we suppose a male, or a female in either plant or animal, neither singly will answer the end, or any thing short of a simultaneous production of each, or that at least *within the period* of their mutual existence; and yet again, in their *sexual conformation* to one another.

In the case of the plant, or of an animal, we must *pre-suppose the seed* and the parents, the product in either case, of a male and female *pre-existing*, or we are driven to suppose divine intervention and omniscience to have produced them of *mature age*, and provided for their sustenance till increase had resulted to supply the place of such provision.

I ask of any rational man, would he in a case involving the life of a fellow creature, decide against him on conclusions less irresistible? If he would, should his sympathies award against suffering humanity, an alternative he denies to his Creator?

But there are of plants, probably 40,000 species; and as many more of animals, without adverting to the myriads of animalculæ invisible to the naked eye; each necessarily *as separate a creation*, and as incapable of divergence from its species as man himself.

Although *varieties*, by fusion or by crossing of a species, may be multiplied, *genera* are independent, and never can. Hybrids, animal or vegetable, if by any chance or artifice, produced, are by nature and of an unnatural composition and organization necessarily defective, and ever have been without exception, barren and unproductive.

The vital creation of plants and animals shown in fossil interments, was therefore evidently *simultaneous* and anterior to the present or Biblical creation: and all exhibit (*at this day, man included*) as at the former creation, with an independent and distinctly separate being, a dependance each on the other, as a law of their nature, and of their existence for sustenance.

In the embryo, its development and thence to its maturity and death, the plant as well as the human and animal cellular formations and fluids maintain for assimilation a rigid simili-

tude to the parent; and this in so nice a degree, as utterly to forbid the introduction into their structure, of the fluids of other genera.

Could I overcome the conviction with which I am impressed that there are others of an education and train of study far better fitted to the occasion than myself, I would, with your permission, if none better should be found to attempt it, broach however imperfectly, some of the analogies of vegetable, animal, and human formation. The divergencies in their characteristics, and those principles of embryotic origin, alimentary development, pathological derangement and vitality which connect themselves with each in their relative comparisons to one another, not however, without copious reference to better authority, and a deliberate conviction that more physiological acquirements than I possess, or have the means of attaining, are requisite to such an attempt, accompanied with a sincere wish that some one better qualified would attempt it.

Wheat Sheaf Farm, Staten Island, Feb. 10. W. A. SEELY.

Salmagundi, or Odds and Ends—No. 1.

Messrs. Editors—It is my intention to present to your readers, from time to time, as convenience permits, my views on divers and sundry subjects connected with my profession, in a fragmentory way, under the above caption. The adoption of this plan will enable me to condense, with due regard to fullness, however, when required, and thereby often avoid the prolixity of formal essays. It will, for the most part, be merely a discharge of small arms, but if a bomb-shell should now and then burst and break some shins, why—let them be mended again as soon as possible, together with the *ways* of those to whom the aforesaid shins belong. Peradventure the war should not come up to this brief manifesto, it will not, most certainly, be the first time in the history of nations or of individuals.

The first thing which will claim my attention, is to supply some deficiencies which were, not inadvertently, but for want of space, omitted in my last chapter, and somewhat connected by common usage, with shearing of sheep. And first,

Castration of Lambs.

Inasmuch as this is usually attended to at shearing time, it would be wholly unnecessary to advert to it, were it uniformly performed, as it should be, with reference to humanity and individual interest. The time I have chosen, as well as method, have been sanctioned and approved by some years of personal experience, and therefore I hope will be acceptable, as well as followed. The ewes of my flocks, by the 20th of May, are through folding; and soon after, provided the weather is suitably warm, they are washed; and some cool day between this and shearing, the flocks are got up, and the lambs docked and castrated. Provided this is not done when the weather is cool, it should be attended to early in the morning, for the reason, that when the temperature is low, there is less flow of blood, and consequently less exhaustion: a contrary course will endanger the lives of many lambs, especially if the breed is of the finer grade of Saxony. The *modus operandi* is thus:—one strides a scantling or narrow plank, which is placed in an inclined position, and on this the lambs are rested; this is a good way, because they can be more firmly held. Another with a *sharp* knife cuts about two-thirds of the testicle bag off: if left too long it will bother the tagger and shearer; if cut too short, it will prolong the process of healing, and often jeopardizes life, especially if no use is made of an ointment similar to the one which I shall prescribe and recommend. The testicles are then drawn out sufficiently far to reach the connecting cords, and instead of then giving a violent jerk, as is usual, the cords are divided by friction of the thumb nail. This is certainly more gentle and *humane*, because, *apparently*, attended with less suffering. After this the tail is docked, and if you wish to save yourselves the trouble of tagging often during the year, let it be cut as short as possible; besides, what looks more *ungenteel*, and absolutely *vulgar*, than a sheep with a long dock, or indeed with any dock at all. The ointment above alluded to, is composed of, say, one pound of lard, half a gill of tar, and a small portion of spirits turpentine, or in these proportions, warmed to a liquid, and applied by means of a swab, about the mutilations. This not only possesses healing virtues, but keeps at a distance the maggot fly. The great majority of farmers use none, and the loss in consequence, is always more or less, yearly, by neglect of it. Year before last, by using this ointment, I did not lose a lamb. Last year I docked and castrated 540, and but two or three died of this large number. After the whole process is through with, which with the skilful is momentary, they are placed in a separate pound, for the sake of quietness, and there remain until the blood ceases to flow, to prevent the wool of the ewes from being stained.—Allied to this subject, is the

Destruction of Ticks,

a most disgusting kind of vermin, which impoverish and injure materially the health of sheep, as well as the appearance of the wool. A mode was recommended by one of you, Messrs. Editors, in a late number of your paper, which was stated to be the result of actual experiment, and proved an effectual remedy. As near as my memory serves—and if I am wrong you can correct me—the process was performed at washing time, and the material was a liberal use of soft soap, which was rubbed upon the fleece before the sheep was immersed in water; and after a few were washed, being in a vat, the soap would so combine with the water as to produce strong suds; and the lambs were served in a similar way. This mode is not uncommon in England and Scotland, and the philosophy of it is very obvious, for, independent of the deadly ingredients of the soap, it produces thorough *cleanliness*, this being the greatest of all foes to the generation of vermin of similar description. This method is feasible—and I have no doubt efficient—where soft water abounds; but the stream which runs through my farm is strongly impregnated with lime, consequently the water is hard, otherwise, I would be disposed to adopt it, for, aside from accomplishing so desirable an object, it must make the wool beautifully white and clean, *a sight always good for sore eyes!* Please remember this prescription, my brother wool-growers, when you are troubled in this way, it being more efficacious far, than half the nostrums invented; and moreover, will "put more money in thy pockets," when thrown into market. In common with many others, I have used most successfully for the destruction of ticks, a decoction of *tobacco water*, and the process is as follows: buy at the stores, say for 100 lambs, four pounds of poor plug tobacco, or of stems ten pounds, and boil the same about two hours in order to extract fully the strength; and then pour the liquid into a half barrel, or washing tub. In about a week after shearing, all the ticks will have left the ewes and fastened upon the lambs; then immerse them in this decoction up to the ears, care being taken not to remove them from over the vessel until the liquor has been rubbed or squeezed from the wool. There are other objects attained besides this in the use of tobacco water, namely: curing irritations or irruptions, caused by johnswort: and if a little tar is dissolved in the water, it will serve as a guard, for a while at least, against the attacks of flies, for we are all well aware how abhorrent the effluvia of tar is to insects of all kinds. If this plan is adopted, every wool-grower may rest assured that in two years scarcely a tick will be found in his flock.

Humanity to Brutes.

There is yet another small matter which should have been noticed in my last chapter, and which I deem of sufficient importance to mention here, namely: a practice very common among shearers of *kicking* and *cuffing sheep, with a view to make them lay still when shearing them!* Something so silly, so contemptible, and so brutal, will seem almost incredible to some of your readers; nevertheless, it is too true. But for humanity's sake, I inform them that nothing of this kind is allowed in my shearing house, and on a repetition of the offence with my shearer, he receives due "notice to quit," accompaniedwith an Uncle Toby *blessing*. What, maltreat an animal when it is yielding its harvest, which the God of Nature has provided for our use and benefit! Why, methinks, "I had rather be a toad and live upon the vapor of a dungeon," than ill-use so interesting an animal, at *such* a time, or indeed under any circumstances. Let man ever keep in view that wise and humane proverb, "a merciful man is merciful to his beast," for its observance will confer a two-fold benefit; to the mind *pleasure*, the invariable concomitant of the discharge of duty; to the pockets, an *increased reward*, which I have fancied sometimes, aside from the obvious and known consequences of kind attention to stock, was the *grateful return* on the part of animals to man, for the exercise of humanity towards them. Enough said—more anon of the salmagundi dish.

Lansing, Tompkins co., N. Y. L. A. MORRELL.

The Rohan Potato.

Editors of Cultivator—I agree with Messrs. Grove, Guthrie, and others of your correspondents, that the farming community have been imposed upon and gulled by unprincipled seedsmen and others, by the publication in agricultural and other papers, of the successes (generally under the most favorable circumstances) which have attended the culture of some new importation of roots, grains, &c.; while the numerous failures, with the trouble and expense required in their successful cultivation, are too often kept out of view. It is an old saying, that "murder will out;" give us the plain ungarnished results, the dark as well as the bright side of the picture; for be assured that the farmer's good judgment, and practical sense, will condemn every attempt at imposition, while he is ever ready to patronize and reward the introducer of the useful or valuable. I would condemn all impositions; so far I agree with the above named gentlemen; but the Rohan potato I highly value, and believe them to be a great acquisition.

I purchased in the spring of 1839, one barrel of Mr. Thompson, of Catskill, containing 303 potatoes; these were cut in pieces, containing one eye each, and planted about the 20th of April, on a rich, warm piece of land, highly manured with stable manure. The same land was dressed with salt the year before, at the rate of 8 bushels per acre, and planted to corn. I mention this, as I intend hereafter to give the readers of the Cultivator the results of my experiments in the use of salt as a manure. The Rohans covered about two-thirds of an acre. The yield was 340 measured bushels, at the rate of 510 bushels per acre; a great many of the tubers weighed from 2 to 4 3-4 lbs. each. The summer was dry and hot, and potatoes generally, in this vicinity, were a light crop. I offered last spring to furnish my neighbors with the Rohans for seed, if they would give me half of the extra yield over any other kind that they chose to plant on the same soils. But one of them accepted the offer and he paid dearly for them. The others knowing what my crop was the year before, preferred purchasing them at $2 per bushel. I have the pleasure of knowing that they are generally satisfied with their bargain. The partial failures can all be accounted for—late planting in some cases, want of manure, or moisture in the others. A neighbor of mine, a good farmer, who does not spare the manure, had 94 bushels from 3 pecks of seed. My crop last year was good, and, like Mr. Grove, I can compare their yield with the Merino and other potatoes. I planted rows of the Merinos, Mercers, Irish Whites, and Orange potatoes, (all reputed good yielders,) by the side of my Rohans. They were all planted with the greatest care, to test accurately the result. The Rohans came off triumphant, beating the Merinos by more than one-third, and yielding nearly as much again as any of the other varieties. You will readily observe that my experience has led me to differ with the above named gentlemen, as to the yield of the Rohans. My *success* I can easily account for; I wish the gentlemen had tried to account for their *failures*. I planted good seed upon a good soil, well manured, planted early, and put but two eyes in a hill, which I am satisfied is seed enough, and is the quantity recommended by Buel, Thorburn, Thompson and others. I am not acquainted with Mr. Guthrie. Mr. Grove I know and respect, and am satisfied that I could account for his failure.

So much for the yield. I have a word or two to say about the quality. I think the Rohans the best of all the coarse varieties of the potato for feeding, and nearly as much better than the Merinos, as they are better than good well-soaked basswood chips. I have fed hundreds of bushels of them to all kinds of stock except sheep, and they all prefer them to the Merinos. I supplied a number of Irish families with them last fall, and they all liked them better than any other kind except the Pinkeyes. I can sell all I have on hand in this village for a table potato. If an Irishman is not a good judge of potatoes, no other man is; they say the Rohans are firm, hearty, and more nourishing than the other kinds. I am informed by good authority that they make more starch and command a better price at the Bennington Starch Manufactory than any other potato. Mr. Grove says they do not keep well, are hollow, and smell bad. I have raised nearly two thousand bushels of them and never knew one to rot except it got frozen, and frozen potatoes generally smell bad. It is not my intention to attack Mr. Grove, or any other gentleman—but to defend the Rohans. And to show your correspondents who have condemned the Rohans that I am sincere, I offer any of them a small wager, from $25 to $100, that I can grow more Rohans than they can Merinos on one acre, and that the same potatoes boiled and fed alone will make one-fourth more pounds of pork than the Merinos. The winner to pay the money to the Treasurer of the County Agricultural Society to which he belongs, as a donation for the benefit of said society.

So much for the Rohans. Mr. Thorburn has been repeatedly attacked in the Cultivator for selling his China corn—it has been called a humbug; the old man denounced, and almost cursed as an imposter, and all for what? Why for doing the very thing that should entitle him to a nation's gratitude, and for which he should be lauded as a public benefactor. It seems too, that if the old man has sinned, he is not allowed to repent as other men do; he has offered to pay back the money to any person that will call on him for it, and still the fault-finding correspondents of your paper will not let him alone. I have planted the China corn for two years, and think it one of our best varieties. I observed a number of rows of this corn last fall, in the western part of this state, all well matured, and yielding a most abundant harvest. In my opinion, Grant Thorburn can safely set this down as one of the best acts of his life, and he has not been deficient in his endeavors to do good to the agricultural and horticultural community of this country. Two shillings an ear would pay him for his trouble, I admit, but the corn was valuable, and by asking that price he got it sooner and better distributed than in any other way.

Schaghticoke, March 22, 1841. JOHN C. MATHER.

The importance of associate effort, in advancing any cause is conceded by all classes; for it is self-evident. Yet how small a portion of so large a class as are the agriculturists of the United States, take advantage of it, by combining their efforts to support societies and journals established for the sole purpose of improving the condition of the cultivators of the American soil. S. R

Lake C. H., May, 1841.

Building Mill Dams.

Messrs. Gaylord & Tucker—Having observed in the Cultivator for March, a communication from W. J. W., wishing information respecting the building of mill dams upon a durable or permanent and cheap plan, and as I have had some experience in that business for the last four or five years, I feel willing to communicate my mite of information. In the year 1836, I determined to erect a mill dam across Stony Creek, which is a continual running stream, with banks and bottom quite precarious, as we have no solid rock in our region. Consequently I made my abutments secure by means of sawed flukes, and piling with suitable plank—then commenced felling my trees that grew on the banks of the stream, and rolled them in, brush and all, commencing at one abutment and so on to the other, one tree by the side of another, as close as possible to each other, tops up stream, having the buts even below, laid on the close bottom of the stream; then laid on a pole, say 4 or 6 inches through, across the buts of the trees, (which were about the same size,) and pinned them fast on each trunk near the ends; that being done, another layer of trees was laid on as before, breaking the spaces as well as we could, letting the ends rest on the pole, on which they were pinned as before; then another pole as the first, and so on up to the top of the dam. I should have remarked that the second pole should be laid on the buts some two or three feet above, (or up stream,) from the other, the object of which is to form a proper slope for the descent of the water, so as to prevent its boiling back and undermining the work. About this time or at this stage of the work, we commenced *weaving* in pine or cedar brush as closely (from the bottom up) as possible, to prevent the earth stones, clay, &c. (or the materials used) from washing through; then commenced wheeling on earth, stones, &c.—all being done in the water, because the water is found to be the best agent in making the work solid and water-tight. The slope should be made easy, or long, so as to prevent the water's washing, which can be determined by the builder, and the slope according—trees, poles, brush, and earth alternately, till the dam is made as high as wished. I then, about 6 or 8 feet below the dam, piled down a sill, which is done by a mortice 3 by 4 inches, and scantling driven through into the bottom of the stream; above this sill, I piled closely with narrow plank; (secure this sill by means of short sills fastened to the foot of the dam.) The box which is thus formed, is then filled up with the best clay and stone, or gravel, and then sheeted over very closely. This 6 or 8 feet is horizontal. I then pile sills from bottom to top of the slope at proper distances, (driving the scantling or piles through or into the tree and brush work.) This being done, fill all the interstices or crevices with the best or most tenacious material possible; then cover over or sheet with thick strong plank, taking care to pin them well—8 or 10, or more feet above the top of the dam, sill and sheet as before, sloping up stream or sloping down from the ridge, from the upper part of which dig down some 3, 4, or more feet, and spile down closely to prevent leaking—then put on as much clay, stones, &c., as will be sure to make a long slope, remembering that it is this which will add permanency to the work.

My dam has now been in use nearly five years, and has withstood during the time some of the greatest freshets that have been known here, for the last half century. My opinion is, that this is the most permanent dam that can be constructed upon a precarious situation. All who have examined it believe it to be perfectly durable. Yours, &c.,

F. TUCKER.

P. S. Fell the trees with all their foliage.

Tuckerasille, Sussex county, Va., April 12, 1841

Editors of the Cultivator—For ten years past, I have had considerable experience in the construction of dams, and other water works, and I find the common brush dam to be inferior to no other in point of cost, durability, and effect. Hemlock brush are preferrible to any other, but if not convenient, almost any kind of brush will answer. The building is simple and the labor can be performed by any common laborer.

The commencement in a strong current is the most difficult, which can be effected by placing the body of a tree across the stream for the brush or trees to rest upon, with the tops up stream in all cases. When a good foundation is laid, coat it with stone, then another layer of brush and stone, and so on alternately, until the required height is produced, reserving the largest stones and the lightest brush for the last coating. Make a light with gravel, or clay, and stick bank willows every two feet throughout the whole course, and you will soon have a dam that will want but little repairing, and which will be durable and permanent, and no floods can move it. A. S. R.

Buttermilk, N. Y. March 20, 1841.

Messrs. Editors—Having seen in the Cultivator an inquiry relative to the best method of putting up dams, I have been induced to offer the method which my experience suggests as combining the two most essential points, durability and cheapness. That can be but little doubt that stone dams, for almost all situations, have claims to superiority over the frame dam, and I shall, therefore, point out some few of the particulars which I think necessary to insure the durability of the work.

The first essential requisite is, to secure a good foundation; the next, to obtain a good stone layer; and the third, the size and hardness of the stones. Lay your foundation of the same width of the proposed hight; that is, for a dam of ten feet high, there should be a ten feet foundation. In laying your stones, lay them the longest way across the dam, and be careful to fill the interstices in the middle, as compact as possible with small stones. If your foundation is rock, it will add to the durability of the wall, if the down stream face should retreat or fall back from a perpendicular line one foot in ten. On your up stream face, lay in some durable timber about four feet from the bottom as a fastening to your plank, and another in the wall after it has reached the proposed hight, as a fastening to the up stream plank, as well as the feeder plank. The timber should be hewn or sawed so as to have a bevel to suit the inclination of the plank on the up stream side. The top of the dam should be perfectly level, thereby avoiding, in a great measure the danger of having the dam uncapt by the ice, which every one must see at a glance is the life of the dam. In order to secure the cap plank as fast as possible, I would recommend having three timbers laid on the top of the stone work, one forming a face on the down stream side, the other in the middle, and the stay timber of both the cap and the up stream plank. As a fastening to the cap, nails may be used, but I would prefer pins made of some durable wood, as nails are liable to be broken by the frost. There should be at least five pins in each plank, and the cap plank should be jointed to each other and to the face plank so as to be as near tight as possible, in order to prevent the water from running down among the stones and freezing during winter. The face plank should come up a sufficient hight above the upper timber, to be even with, and a protection to the cap plank. The slope or inclination should be such as to leave about four feet width at the top. The plank should be good, sound, and thick, for the face as well as the cap, and should have their edges beveled so as when put together there will be an opening on the upper side of an eighth of an inch. They should also be neatly scribed so as to fit the rocks at the bottom, as it is an experiment that has often been tried that water cannot be *cheated*. Some have tried the method of filling in earth, on the up stream side, to answer the purpose of plank, but I have never seen a dam that had been filled in that did not leak. C.

Germantown, N. Y. March 18, 1841.

Specimens of Indian Corn.

Messrs. Gaylord & Tucker—A few days since I enclosed in a small box to you, a few ears of Gourd Seed Yellow Corn, *originally* (as I was informed by an old acquaintance, since dead,) *from the Eastern Shore of Virginia*; and an ear or two of mixed blue, attempted to be raised by me the last season, to *be satisfied* from actual experiment, whether the blue is a distinct variety or not, because it seems to be the opinion of botanists, that blue seed is very uncommon. I stated that long since it has been understood and classed, (by some writers on the subject of *variety of corn,*) with other *colors* of corn, as original and distinct; and although believing so myself, I determined to try for myself; and say that I am satisfied, although the experiment has been only partial, that it is so. The early history of the maize speaks of blue, red, &c. as distinct; and although I believed this to be so, yet I believe that those who will try it, will soon find that the varieties of red and blue are worth nothing beyond experiment, and they will at last settle down upon the white or yellow, for manifold reasons, not here necessary to detail, or to trouble you with.

I enclosed in the box with the corn some *exquisite water-melon* seed, and stating my apprehension, that it was likely they may have by some means got impregnated by the Ice Rind, although I am not conscious that an injury would necessarily result from the mixture; because the Ice Rind is a most delightful melon.

You ask those who may send you specimens of corn, 1st, the name by which it is known? 2d, the latitude in which is it grown? 3d, the time of ripening? and 4th, such particulars as to its origin and history as they may be able to give? As to the 1st, it is answered above, as well also as to the 4th, so far as I am at present able; if I can learn more of its history, I will inform you. The latitude is that of Virginia, between 36 and 37 degrees of north latitude; the time of ripening depends much upon the time of planting; but if planted at any time in April or on the 1st of May, it will be ripe, according to season, from the 10th to the last of September; although I believe if the season is propitious, and the land in good condition, with corresponding tillage and planted early, it will be ripe in August. I am satisfied that it is a fortnight earlier than the large white, and very nearly as early as the Baden or Twin, which is the earliest we have to my knowledge, worth growing in Virginia.

J. C. ROBERTSON.

Springfield, E. C. county, Va., April 2, 1841.

Messrs. Gaylord & Tucker—I send you herewith five ears of my kind of corn, which I have been this eight years maturing, selecting, &c. to get an early variety. These are only medium sized ears; some grow four or five inches longer; but among all the corn that you will have presented to you this season, I don't believe ("although its myself that's saying it, that shouldent be saying it,") you will get any superior, if equal, to it, for early maturity, size, variety, &c. Four years ago I got a barrel of Dutton of Judge Buel, and I tried it two years, but found that it did not ripen as early as mine by two weeks, and the stalks of the Dutton were one-third larger than my variety. I hope it will be kept separate from any other that you may obtain. I will warrant you that you will like it. S. W. JEWETT.

Weybridge, Vt., May 15, 1841.

Farmers' Gardens.

Messrs. Editors—It must be pleasing to the friends of American agriculture to observe the Cultivator so well sustaining its early and merited reputation as a leading journal of American Husbandry. Experience here, as well as in Europe, has fully established this mode of disseminating correct principles and practice as the most efficient and successful of any. The Cultivator, as a register of practical facts, opinions and experiments, in all departments of agriculture, is extremely valuable. Horticulture being considered as a subordinate branch, has not received so much attention from your correspondents as, perhaps, it merits. Farmers have, indeed, been reproached with total neglect of the garden; but this is far from being of general application. Farmers, as in other professions, differ in their tastes as well as in their skill, abilities and degrees of industry. Many farmers know and properly appreciate the value of their gardens, as objects both of profit and pleasure. It is also to be considered, that the Cultivator, although intended for the benefit of farmers chiefly, has, if I mistake not, many other readers; professional men, merchants, and others residing in villages and cities, many or all of whom, probably, have gardens in which to raise useful and ornamental plants for convenience and pleasure, furnishing at the same time a healthy and delightful exercise and amusement to the owners. To all such, as well as to a large majority of the farmers, communications on useful and ornamental gardening cannot fail, I should suppose, to be acceptable; nor must it be forgotten, Messrs. Editors, that in this department, as well as in that of the domestic economy, the ladies take a deep interest. I sincerely wish it was possible to extend this taste and its influence to every mechanic and laborer in America, and regret that the migratory propensities of the people present a very powerful obstacle to it.

These remarks occurred on observing in the last number of the Cultivator, a communication on Ornamental Gardening, by your correspondent, Mr. Walsh, furnished in compliance with your request, and that of many others, with a very neat plan of an ornamental and vegetable garden; and this not a creation of mere imagination, but a substantial reality, being that of his own garden at Lansingburgh; it is, however, a very handsome specimen, and although plans of gardens admit of infinite variety of form and disposition of parts, according to situation and taste, this specimen and description contains much valuable information that may, as you observe, be made available in every case where ornament is an object; and I hope Mr. Walsh will soon furnish you with plans for summer-house, green-house, gates, &c. agreeable to his promise.

Horticultural structures are not as yet so common in America as in Britain, especially in the country; and their supposed expense may have a tendency to retard their extension. Simplicity and cheapness are, therefore, very desirable in plans of this kind; those in Mr. Walsh's garden possess this merit; they are easily understood, and cannot be very expensive. Some of us may, probably, smile at the idea of a farmer's green-house, considering such a thing as visionary or extravagant; and no doubt it would be unsuitable to those of us who cannot afford it, or have no time to attend to it; but there are a good many farmers who have ability and time at command. A farmer who has his land let on lease or shares, and continues to reside on the premises, or who has a son capable of superintending the operations of the farm, could manage any thing of this kind conveniently, and these are very common cases. Again, in the cities and villages, where many gardens are kept as much for amusement as profit, a green-house would be a suitable and very desirable appendage. I understand there are green-houses in Boston and neighborhood of large size, and also at the Albany Nursery, that cost but little over $100, so that the expense cannot be so much an object as, perhaps, is generally supposed. Under these views, occasional communications on ornamental, as well as common horticulture, may, I presume, be useful and acceptable.

Before concluding, I must observe, Messrs. Editors, that your correspondent is far too severe on us poor farmers; his remarks on our gardens are too sweeping; should he favor me or some of my neighbors with a visit in the proper season, I flatter myself he would find cause to alter his opinion a little, or at least to allow that there are exceptions; some of us (not to mention myself) have our gardens, as well as our farms, in pretty good order, as we think. He will find with us all sorts of culinary vegetables in perfection, together with abundance of high and low fruit, of every kind the climate can bring to maturity.

We have also our flower beds and borders, where our wives and fair daughters will exhibit to him tolerable specimens, I suppose, of dahlias, pæonies, roses and such like, aye, and some green-house plants too, all of which he will prize not the less, I guess, for being the work of their industrious hands.

So far as my observation extends, I feel warranted in stating, and do it with pleasure, that the taste for gardening is advancing gradually; and although some may think it a matter of but small importance, yet in some points of view it will be found eminently worthy of attention and encouragement. A taste for the pleasures and comforts of horticulture in a country has been justly considered as an indication of refinement in the people, and its excellent moral effect has been acknowledged in every instance where it has taken place. This is strikingly exemplified in the operatives of Paisley, as described by Sir John Sinclair in the General Report of Scotland. The superiority of these mechanics in moral habits and intellectual acquirements is ascertained to be owing entirely to the employment of their spare hours in the cultivation of flowers, in place of spending them as most mechanics are apt to do. The same remark applies to the cultivators of prize gooseberries in Lancashire; many other instances might be quoted.

In the southern and middle counties of England, all travelers have noticed the neat and pretty appearance of the cottages there, and the additional beauty and interest they impart to the rural scenery, never failing to remark at the same time the cheerful and happy appearance of the inmates compared with many other parts of England; these cottages have small gardens attached, and their fronts are decorated with vines, roses and honeysuckles, the training of which and cultivation of their gardens, occupy their spare hours, strikingly verifying your correspondent's remark, that where you see a good vegetable, flower, and fruit garden, attached even to a very humble cottage, that cottage is the abode of happiness. If effects so desirable can be produced by a taste for the pleasures of horticulture, who can deny its importance or withhold from it his approbation and patronage! With hearty good wishes for the success of the Cultivator, I am yours, &c. SENEX.

Saratoga county, February 27, 1841.

Raise More Ruta Bagas.

Respected Friends—I have often wondered that there was not more of this useful article of food for stock raised in this cold country of long winters. I think the farmers of this county have seen the want of them the past winter, owing to the light crops of hay the past season. For one, I am very sure that, had it not been for my ruta bagas and mangel wurtzels, I should have been able to have supplied the tanner with a few hides, as well as the factory with a quantity of pulled wool. I will admit, that the past season was a very unfavorable one for that crop, as well as hay, yet by sowing early and filling up vacant places with plants from the garden, I raised about half a crop, which has been of more value in wintering my stock than four times the amount of meadow. I have heard it said, that ruta bagas will not fatten cattle. This I believe to be incorrect, as I have tried them for several years. I fattened two oxen entirely upon them; commenced feeding them in the fall—one of them had worked through the summer, and was low in flesh; they eat about three bushels per day, with very little hay and without any drink—fed them in this way about three months, intending to feed them a few weeks with meal; but before commencing with the meal, had an opportunity of disposing of them. The butcher told me that they were the best beef that he had ever sold in the market; and as a proof of it, said that every one that used the meat called soon for more, saying they wanted more of that good beef; which will go to prove that ruta bagas will not spoil the flavor of beef. Much more might be said in their favor—the manner of keeping in winter, their value and expense compared with potatoes, &c.; but I will not trouble you with any more at this time. WILLETS KEESE.

Peru, N. Y., May 10, 1841.

The White Daisy.

Messrs. Gaylord & Tucker—Under the title of Dictionary of Terms, &c. in the last October No. of the Cultivator, you denounce the white daisy as one of the greatest pests of the farmer, when permitted to get possession of the soil. I was once of your opinion, and, therefore, spent many a weary hour in eradicating some scattering plants on my land. But experience, I think, has taught me better. I now consider the white daisy on my land a valuable grass. My mowing land, and most of my pastures, are a thin cold soil, not swampy; and the meadows, when well manured and in good condition, produce a good crop of excellent hay, principally timothy and clover. I give them a good top dressing of manure, if to be obtained, once in three years. When the meadows are in good condition, the daisies, where they have got strong hold, can hardly be perceived, but when the influence of the manure is much lessened, the daisies appear to be almost the only grass, and produce a middling crop in quantity, of the first quality of hay for cattle and sheep, if mowed while in the blow. I get no hay that I consider as valuable for cattle and sheep as daisy hay, cut in bloom. It is true, it does not yield a great crop, for the reason that other grasses take its place when the land is in a condition to produce a great burden. But on my mowing land, I consider the crop worth more than I could get of any other grass, with the land in a like condition. I have, therefore, no longer any war with white daisies, and the only weapon I ever use against them, is a good dressing of manure. I consider them equally good for pasture on the same kind of soil, but should be kept fed down, so as not to be too old.

Yellow daisies, or crow-foot, I have none on my land; but where I resided when young, they were plenty in low lands, and I thought farmers considered them, if cut in the blow, as good hay for cattle as sown clover the first year of mowing. I presume the same remedy, that is, a good manuring, will answer for them as well as the others. C. BUTLER.

Plymouth, Ct., April 22, 1841.

Sun Dials.

Messrs. Gaylord & Tucker—I perceive in two communications from A. Walsh, Esq. in late Nos. of the Cultivator, recommendations of a sun dial as one of the convenient and useful decorations of a garden, and inquiries made where a proper one is to be procured. The object of this is to inform your numerous readers, that when the communications met my eye, I was engaged in constructing one, partly for the very purpose for which Mr. Walsh recommends it. I expect to have a quantity finished and for sale in two or three weeks. They will be for sale in Hartford and in New-York city, and if convenient, a quantity will be sent to Albany. Due notice of the persons having them for sale will be given in the Cultivator, if permitted. Resp'y yours, S. MOORE.

Kensington, Ct., May 21, 1841.

Cure for the Mange in Swine.

Give them sulphur in their food, and wash them in soap suds.
E. C. Leavell

Notices to Correspondents, &c.

Our correspondents will perceive, that by a more liberal use of nonpariel type, we are this month enabled to publish an unusual number of their favors; but, notwithstanding we have given in this and our last number, at length or in a more or less condensed form, about one hundred and forty communications, we have still to beg the indulgence of our friends for the omission of several, which we had intended to have given this month. During the past month, communications have been received from C. Allen, R. Jenkins, C. Broom, Garret Bergen, J. C. Robertson, C. G. Page, Thos. Tinley, N. Sutherland, S. Akerly, W. H. Sotham, S. Blydenburgh, Josiah Holbrook, C. B. Hite, W. M. Hall, John Lossing, B. A. Bidlack, J. J. Slatter, J. B. Gray, Willetts Keese, John Johnston, Jos. Sanford, J. M. Weeks, S. W. Jewett, L. O. Lawrence, Calvin Butler, J. P. C., A Subscriber, C. M., A. B. A., One Subscriber, Richmond, E. H. K., A Wool Grower, Kit. Cornhill, and Holkham.

In consequence of the number of articles and communications we wished to insert this month, we have been compelled to condense and abridge several. We hope our correspondents, to whom we feel so deeply indebted for their kind favors, will remember that as much directness and conciseness as is possible, consistent with the nature of the subject treated, is desirable in all communications, as we have room for nothing which does not have a practical or necessary bearing on the great object for which the Cultivator was established,—the promotion of Agriculture.

Acknowledgments.—Our thanks are due to Rev. Henry Colman, for a copy of the "Essex Ag. Society's Transactions for 1840"—To the Author and to some unknown friend, for copies of "A Discourse on the Character, Properties, and Importance to Man, of the Natural Family of Plants called Gramineæ or True Grasses, by Wm. Darlington, M. D."—To some one unknown, for a copy of the "Revised Acts" of Virginia, "which prescribe the mode of ascertaining the taxable property," &c.—to J. C. Robertson of Va. for specimens of two varieties of Indian Corn, and for a paper of Water Melon seeds—to S. W. Jewett of Vermont, for a beautiful specimen of Indian Corn—and to Josiah Holbrook, for a "Geological Cabinet," such as noticed in his communication in this paper.

Errata.—Mr. Garnett's communication, page 79, in the 10th line from the bottom of the second column insert "have" before "varied." And in the 10th line of the second paragraph of the third column, insert before "their inquiry" the words "the answer to;" and in the next line read *inventus* instead of *inventur*.

In the list of officers of the Farmers' Agricultural Society, p. 37, for Wm. S. Bowne read Wm. *F.* Bowne; for Addison M. Snick read Addison *M. Smith*; for Wilson B. Pearsall read *Nelson* B. Pearsall.

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